Eagle Mountain Gold Project, Guyana

Environmental Impact Assessment Report: Volume 1

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(subsidiary of Mako Mining Corp.)

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ACRONYMS AND ABBREVIATIONS

Acronyms	Description
µg/L	microgram per liter
4G LTE	Fourth generation long term evolution
A	Amperes
ACTO	Treaty on Cooperation for the Development of the Amazon Basin
AoI	Area of Influence
AMD	Acid Mine Drainage
AQS	Air Quality Standards
Baseline	Eagle Mountain Environmental and Social Impact Assessment Baseline
BC	British Columbia
CCME	Canadian Council of Ministers of the Environment
CDC	Community Development Council
CDMP	Caribbean Disaster Mitigation Project
CFM	Cubic feet per minute
CH&PA	Central Housing and Planning Authority
CIL	Carbon-in-leach
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CJIA	Cheddi Jagan International Airport
CO	Carbon Monoxide
CoC	Chain of Custody
CONAMA	National Environmental Council of Brazil
CRF	Cemented Rock Fill
CRTN	Calculation of Road Traffic Noise
CSBD	Centre for Study of Biological Diversity
$CuSO_4$	Copper Sulphate
CV	Curriculum Vitae
dB	Decibels
dB(A)	A-weighted decibel value
DDH	Diamond Drill Hole

Acronyms	Description
DNA	Deoxyribonucleic acid
DNI	Direct Normal Irradiation
DO	dissolved oxygen
DOC	dissolved organic carbon
E&A	E&A Consultants
EAB	Environmental Assessment Board
EBS	Environmental Baseline Study
ECIA	Eugene F. Correira International Airport
EHS	Environmental Health and Safety
EIA	Environmental Impact Assessment
EII	Eternity Investment Inc.
EIS	Environmental Impact Statement
EMPL	Eagle Mountain Prospecting License
EMS	Environmental Management System
EP Act	Environmental Protection Act
EP4	Equator Principles 4
EPA	Environmental Protection Agency
ERM	Environmental Resources Management
ES	Ecosystem services
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ETS	Environmental Technical Solutions
FPIC	Free, Prior, and Informed Consent
g/L	Grams per liter
g/t	Grams per ton
Ga	Giga annum (billion years)
GA	General agreement
GEM	Global Earthquake Model
GFC	Guyana Forestry Commission
GFDRR	Global Facility for Disaster Reduction and Recovery

Acronyms	Description
GGMC	Guyana Geology and Mines Commission
GIIP	Good International Industry Practice
GLSC	Guyana Lands and Surveys Commission
GNBS	Guyana National Bureau of Standards
GRADKO	GRADKO International LTD
GRBD	Guyana Rice Development Board
GYS	Guyanese Standard
HBL	Haags Bosch Landfill
HFO	Heavy Fuel Oil
HMS	Hydrometeorological Service
hp	Horsepower
Hz	Hertz
ICP	Informed Consultation and Participation
ICT	Information and Communication Technology
IDB	Inter-American Development Bank
IEM	Iowa Environmental Mesonet
IFC	International Finance Corporation
ILO	International Labor Organization
in	Inches
IRIS	Incorporated Research Institutions for Seismology
IRMA	Initiative for Responsible Mining Assurance
ISO	International Organization for Standardization
ISQG	interim sediment quality guidelines
kg	Kilograms
KL	Kiloliters
km	Kilometer
km^2	Square kilometer
kPa	Kilopascals
kV	Kilovolts
L	Location

Acronyms	Description
L_{A10}	Equivalent A-weighted sound pressure level, in decibels, used to express the background noise level which is exceeded for 10% of the time over a period stated
L_{A90}	Equivalent A-weighted sound pressure level, in decibels, used to express the background noise level which is exceeded for 90% of the time over a period stated.
L_{Aeq}	Equivalent sound pressure level, in decibels, comparable to the total A-weighted sound energy measured over a stated period of time
L_{Amax}	The equivalent maximum A-weighted sound pressure level, in decibels, recorded over a time period stated
L_{Amin}	The equivalent minimum A-weighted sound pressure level, in decibels, recorded over a time period stated
LBS	Land-Based Sources and Activities
LCDS	Low Carbon Development Strategy
LGBTQ+	Lesbian, Gay, Bisexual, Transgender, Queer/Questioning +
LHD	Load-Haul-Dump
LLP	Limited Liability Partnership
LOM	Life-of-Mine
L_P	Sound Pressure Level
L_W	Sound Power Level
m	meter
m/s	Meters per second
m^3	Cubic meters
m^3/s	Meters cubed per second, unit of discharge
Ma	Mega annum (million years)
MAD	Mean annual discharge
Mako	Mako Mining Corporation
MARAD	Maritime Administration Department
masl	Meters above sea level
MEA	Multilateral Environmental Agreement
mg/L	milligram per litre
MHSS	Ministry of Human Services and Social Security
MIC	Maximum Instantaneous Charges
Mm	Micrometers

Acronyms	Description
mm	Millimeter
Mm^3	Million cubic meters
MNR	Ministry of Natural Resources
MNRE	Ministry of Natural Resources and the Environment
MoAA	Ministry of Amerindian Affairs
MoE	Ministry of Education
ms	millisecond
MSDS	Material Safety Data Sheet
MW	Megawatt
MWe	Megawatt electric
$Na_2S_2O_5$	Sodium Metabisulphite
NaOH	Sodium Hydroxide
NAREI	National Agricultural Research and Extension Institute
NBSAP	National Biodiversity Strategy and Action Plan
NCEI	National Centers for Environmental Information
NDC	Neighborhood Democratic Council
NDIA	National Drainage and Irrigation Authority
NEAP	National Environmental Action Plan
NGDC	National Geophysical Data Center
NGO	Non-Governmental Organization
NGSA	National Grade Six Assessment
NIST	National Institute of Standards and Technology
NLUP	National Land Use Plan
NMP	Noise Management Plan
NO2	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration
NOx	Oxides of Nitrogen
NSR	Noise Sensitive Receptor
NTC	National Toshao's Council
NVIA	Noise and Vibration Impact Assessment

Acronyms	Description
OAS	Organization of American States
PAG	Peak Ground Acceleration
PAH	polycyclic aromatic hydrocarbon
PEA	Preliminary Environmental Assessment
PL	Prospecting License
PLA	Prospecting License Area
PM	Particulate Matter
PM10	Particulate Matter less than 10 microns in diameter
PM2.5	Particulate Matter less than 2.5 microns in diameter
PMF	Probable Maximum Flood
PNC	People's National Congress
PP	Power plant
PPP	People's Progressive Party
PPV	Peak Particle Velocity
Project (the)	Eagle Mountain Project
Project area	Eagle Mountain Project area
PS	Performance Standards
PSAD56	Provisional South American 1956, geodetic reference system
PSC	Private Sector Commission
psi	Pounds per square inch
PUC	Public Utilities Commission
Q	Discharge
QA/QC	Quality Assurance/Quality Control
R^2	R-squared
RBM	Raise boring Machine
RC	Reverse circulation
RDC	Regional Democratic Council
RMSE	Root mean square error

Acronyms	Description
ROM	Run-of-Mine
RPD	relative percent difference
SAG	Semi-autogenous
SD	Scaled Distance
SGBV	Sexual and Gender Based Violence
SLM	Sound Level Meter
SMBS	Sodium metabisulphite
SO	Strategic Objectives
SO_2	Sulphur Dioxide
SPAW	Specially Protected Areas and Wildlife
Stronghold	Stronghold Guyana Inc.
STD	Sexually Transmitted Disease
STI	Sexually Transmitted Infection
STP	Sewage Treatment Plant
SWG	Surface water gauging station
SWL	Sound Power Level
t	Tons
T	Period
t/d	Tons per day
TC	Town Council
TOR	Terms of Reference
TRL	Transport Research Laboratory
TSF	Tailings Storage Facility
TSP	Total Suspended Particulates
TSS	Total Suspended Solids
TWSR	Treated Water Storage Reservoir
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations International Children's Emergency Fund

Acronyms	Description
UoG	University of Guyana
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UTM	Universal Transverse Mercator coordinate system, uses PSAD56 reference system
UV	Ultraviolet
VC	Village Council
VEC	Valuable Ecosystem Components
VOCs	Volatile Organic Compounds
VSD	Variable Speed Drive
WAD	weak acid dissociable
WBG	World Bank Group
WDS	World Data Service
WGS84	World Geodetic System 1984
WHO	World Health Organization
WIIN	Women’s Innovation and Investment Network
WMP	Wate Management Plan
WRI	World Resources Institute
WSF	Waste Storage Facility
WTP	Water Treatment Plant

GLOSSARY OF TERMS

Acid Rock Drainage – Formed when a rock mass containing sulfide minerals weathers in the presence of oxygen and moisture resulting in the release of sulfuric acid and associated metals into the environment.

Adit - A mine entrance that is horizontal or inclined.

Alluvial Gold - Gold deposited by flowing water.

Amalgam - Gold or silver mixed with mercury.

Amalgamation - A process that separates gold (or silver) from ore. Ore is crushed in a mercury-water solution and subjected to violent agitation, which breaks up the mercury into minute particles that adhere to the gold. When the gold has partially separated from the mercury, the remaining mass is heated in a retort. The mercury vaporizes and is condensed to use again. The gold is now almost pure and is cast into bars.

Artisanal Mining - Informal mining activities carried out using low technology or with minimal machinery.

Auriferous - Gold-bearing.

Backfill – Material used to fill the cavities created by underground mining.

Barren pond - Storage pond for solution from which gold has been extracted.

Base Gold - Gold alloy.

Baseline – Base level measurements of parameters or conditions with which other values can be compared.

Borrow areas – for laterite and sand

Borrow pit - an area of land where earth materials such as soil, sand, clay, gravel, and other minerals have been removed for construction, landscaping, and raw materials for mining.

Bund - A low embankment often constructed around potential spillage areas to reduce the risk of environmental contamination. It is important these structures can retain the volume of any potential spillage.

Bullion - Unprocessed gold or silver, before coinage or minting. Usually melted into bricks or bars for easy storage.

Byproduct - A metal or mineral product recovered in the milling process in addition to the target product (gold).

Carat - (1) One 24th part of pure gold. (2) It's also a unit of weight equal to about 0.2 grams used to weigh precious gems.

Carbon Regeneration – Process of regenerating the carbon by removing contaminants from the elution circuit via dewatering.

CIL - Carbon-in-leach. A process used to recover gold into activated carbon during the agitation leach process.

CIP - Carbon-in-pulp.

Crushing Circuit - Involves feeding blasted materials from OP or UG to a crusher for reducing to the required particle size.

Cyanide - A chemical used to dissolve gold and silver from ore.

Decant - The removal of solution from a tailings storage facility after solids have been allowed to settle.

Deposit - An area where gold or other metal has been found.

Dewatering – the action of removing groundwater from a mine.

Diversion Channels - artificial channels designed to divert excess amount of water to prevent flooding, erosion and landsliding.

Drift - A horizontal tunnel leading from the main bore or shaft of a mine.

Eh - Reduction potential (in units of volts or millivolts)—a measure of how oxidizing or reducing a system is (more positive values tend to indicate oxidizing environments, more negative values reducing).

Electrowinning - The electrodeposition of metals from their ores that have been put in solution via the leaching process.

Elution Circuit – Completes the CIL circuit, enabling stripping of gold from loaded carbon using a hot cyanide solution at high pressure.

Environmental Baseline Study – Studies designed to establish the environmental conditions at a site prior to any site development.

Environmental Impact Assessment - An analysis of all the environmental impacts associated with a plan of development including beneficial and detrimental impacts.

Feasibility Study - An evaluation of a proposed mining project to determine whether the mineral resource can be mined economically.

Footprint - The land area that is disturbed through the construction and operation of a mine.

Freeboard - The distance between the crest of a pond or impoundment and the level of contained solution.

Free Cyanide - The uncomplex cyanide ion (CN-) and gaseous or aqueous hydrogen cyanide (HCN).

Gold - A heavy yellow metallic chemical element; a precious metal used in coins, jewelry, bars

Gold Doré - A mixture of gold and silver in cast bars, as bullion. The final product of mining and refining processes.

Gold Mineralization – Gold particles concentrated in favorable geological units

Gravels - A loose mixture of small pebbles and coarse rock fragments.

Gravity Circuit – Method of separating minerals of different specific gravity by their relative movement in response to gravity and one or more other forces. Gravity processes are usually situated within the grinding circuit to process either the Hydrocyclone underflow or mill discharge.

Grinding Circuit – Process of grinding reclaimed ore from crushed ore stockpile to produce fines.

HACCP - Hazard Analysis at Critical Control Points—a formal procedure designed to identify the hazards associated with particular stages in a given process.

Hardrock (Quartz) Mining - The underground method of mining accomplished by sinking a shaft deep into ground containing, with drifts (tunnels) radiating out on various levels to reach gold mineralization.

Heap leach - To dissolve minerals or metals out of an ore heap using chemicals. During heap leaching gold a cyanide solution percolates through crushed ore heaped on an impervious pad or base pads.

Hydraulic Mining (Hydraulicing) - A method of mining whereby water under pressure is directed at hillsides of soft gravels through a hose with a nozzle called a monitor or giant, causing slurry to run down into long lines of sluice boxes.

Leaching Circuit – Utilized to extract metals from ore through chemical dissolution following the grinding circuit.

Life-of-Mine - A determination of the number of years a site will mine and process ore based on various input conditions, including economic, environmental, and business considerations.

Lixiviants - Chemical leaching agents.

Lode - An underground vein bearing gold or other precious metal.

Mercury - (*Hg*.) a heavy, silver-white metallic chemical element, liquid at ordinary temperatures. Used to help capture gold particles in sluicing when placed at the riffles or ribs in the box.

Metallurgy - The science of separating metals from their ores and concentrating them for use by refining.

Mining Permit – Permit providing approval from a relevant government agency for exploration and mining activities.

Mixing Zone - A predefined area beyond an outfall or discharge point in which the applicable jurisdiction or regulatory agency permits water quality criteria to be exceeded. Beyond the mixing zone boundary, applicable water quality criteria for the protection of aquatic life must be observed.

Open Pit Mine - A surface mining technique that extracts minerals from an open pit in the ground.

Ore Body – A sufficiently large amount of mineralized rock that can be mined economically.

Overburden - Material, such as soils, covering the gold-bearing mineralized zones or gravel.

pH - The measure of acidity (or alkalinity) defined as being the negative log (to base 10) of the free hydrogen ion concentration. The pH scale ranges from 0 to 14; a pH of 7 is neutral, less than 7 acidic and more than 7 alkaline.

Phreatic Surface - The surface between the zone of saturation and the zone of aeration; ground water table.

Pregnant Carbon - Carbon that has fully adsorbed all the gold it can hold.

Preliminary Economic Assessment - A study, other than a pre-feasibility study or feasibility study, which includes an economic analysis of the potential viability of mineral resources.

Prospecting License - A permit, issued by the Minister, which allows the holder (the licensee) to prospect for specified minerals in a defined geographic area referred to as a prospecting license area (PLA).

Process Solution - Liquid cyanide received from the supplier, solutions used to leach gold, barren leach solution from heap leaching, mill tailings, tailings return water and carbon stripping solution. However, solutions with concentrations of WAD cyanide below 0.5 mg/l are not considered to be process solutions.

Process Water – Primarily utilized for drilling and dust suppression activities in a mine. Comprised of pre-leach thickener overflow, tailings pond reclaim water, and fresh makeup water.

Process Water Holding Pond – Part of a larger leaching system for processing ores and minerals, providing storage for certain steps of the process.

Processing Plant – Designed to treat ore and consisting of comminution, gravity concentration, cyanide leach and adsorption of the gold concentrate via carbon-in-leach (CIL), carbon elution and gold recovery circuits.

Placer - A deposit of gravel or sand containing particles of gold that can be washed out. Usually eroded from the hills or deposited by a river.

Placer Mining - Mining on the surface. A process of extracting surface gold from ore-bearing gravels by panning, dredging, and sluicing.

Pocket - A small but rich concentration of gold in a quartz vein, or gold-bearing gravel in a hole or low spot in a stream bed.

Quartz - A common, hard mineral, often with brilliant crystals, generally found in large masses or veins.

Reagents – Utilized in the processing stage and include sodium cyanide, hydrated lime, hydrochloric acid, sulfuric acid, sodium hydroxide, copper sulphate, sodium metabisulphite, anti-scalant, flocculant, and activated carbon.

Reclamation - The process by which lands disturbed as a result of mining activity are restored to support beneficial land use.

Refining - The final stage of metal production in which impurities are removed from the molten metal.

Retort - A high-temperature furnace used in refining gold. Amalgam is super-heated so the mercury is vaporized and saved, and the gold is formed into bars.

Risk Assessment - The overall process of risk analysis and risk evaluation using a systematic process to determine how often a specific event occurs or has the potential to occur, the magnitude of the event’s consequence, as well as prioritizing those events.

Run-of-mine - Unprocessed mined material which consists of mineralized soil and rock.

Saprolitic ore – Chemically weathered bedrock which still retains the original lithic fabric.

Sediment Ponds – Temporarily designed structure that prevent sediments from eroding into waterbodies from construction sites or exposed soil during rainfall events.

Seepage - The movement of fluids in soils or rocks.

Site drainage – Includes features such as ditches, ponds, site diversion channels, regrading.

Slimes - The finest particles suspended in a tailings slurry.

Sparging - A procedure designed to minimize operator exposure to cyanide during transfer from transport container to storage facility at a mine site.

Stamp Mill - A mill built to break up and grind gold-bearing ore, saving the gold through amalgamation. A mill could have any number of "stamps".

Stamps - Metal arms at a stamp mill that raised and lowered like battering rams to crush the ore so the gold could be extracted.

Stakeholder - Stakeholders are individuals and groups that have interest in the related activities of a mine, or who are or may reasonably be affected by those activities. The term is applied differently depending on the specific nature of the issue to be addressed and can require considerable flexibility and judgment.

Stope – A dugout tunnel or space that contains the ore that will be blasted and escavated to be sent to the processing plant.

Supernatant - A pond on the surface of the tailings impoundment

Surface Water(s) - Any natural water body occurring on the surface, including but not limited to rivers, creeks, streams, lakes, marshes, and marine waters.

Tailings - Waste material left after gold-bearing ore is processed. Material rejected from a mill after the recoverable valuable minerals have been extracted.

Tailing Storage Facility (TSF) - An impoundment used to place mill effluent containing the leached ore in a water slurry that may contain cyanide. The solids remain in the TSF for disposal and the water may be recycled back to the mill for reuse or may be treated and discharged.

Title Holders - A claim, exclusive prospecting license, concession, right, or lease. A grant under laws and mining regulations to a person or group of approved persons of the right to develop and exploit a properly delineated area for its mineral wealth.

Underground Mine – Extraction of ore from below the surface of the earth via horizontal or vertical tunnels.

Vein - Route followed by gold from the lower depth of the earth towards the surface.

WAD cyanide - Weak acid dissociable cyanide that is readily released from cyanide-containing complexes when the pH is lowered

Watershed – An area of land that drains all of its water to a specific lake or river.

Waste Storage Facility – Storage of waste rock or overburden generated by mining operations.

Worked Out - A claim, mine, or area that has been thoroughly mined of all gold that is profitable to mine.

Volatilization - Release of gaseous phase of a chemical, in this case cyanide.

1. INTRODUCTION

1.1 PROJECT BACKGROUND AND OVERVIEW

The Eagle Mountain Gold Project (the "Project") is an advanced-stage gold exploration project located in west-central Guyana, approximately 200 kilometres south-southwest of Georgetown, in the Potaro-Siparuni Region 8 (Figure 1.1). The Project plan considers an open pit gold mine over a 15-year period. Stronghold Guyana Inc. (the "Company" or "Stronghold Guyana"), based in Georgetown, is a wholly owned Guyanese subsidiary of Mako Mining Corporation ("Mako"), and holds a prospecting license on the Eagle Mountain Property, referred to as the Eagle Mountain Prospecting License ("EMPL").

The Property includes the Eagle Mountain Prospecting License 04/2024 totalling an area of 4,784 ha or 11,820 acres. The Property also includes MSMP K-60/MP/637/2014 totalling 254 acres. The medium-scale permit is held by Kilroy on which Stronghold Guyana has a long-term lease with a 2% NSR royalty. In October 2020, Stronghold Guyana also entered into an option and purchase agreement to acquire a 100% interest in the 24.4-acre Ann SSMC, located within the EMPL 04/2024 boundary. A summary of all relevant licenses is provided in Table 1.1.

TABLE 1.1 SUMMARY OF PROPERTY LICENSES FOR THE EAGLE MOUNTAIN PROJECT

License Name / Number	Ownership / Agreement	Grant Date	Expiry Date	Area
Eagle Mountain Prospecting License (EMPL) PL# 04/2024	Stronghold Guyana Inc. (100% Guyanese subsidiary of Mako Mining Corp.)	Sept 30, 2024	Sept 30, 2027	11,820 acres
Kilroy Mining Medium Scale Mining Permit (MSMP) #K-60/MP/637/2014	Kilroy Mining Inc. (100%). Under agreement with Stronghold Guyana Inc. for 100% control subject to 2% Royalty	July 17, 2024	July 17,2029	254 acres
HO#21/213/ 1995, Small Scale Mining Claim, known as Ann SSMC	Mark Crawford (Guyanese). Under Option and Purchase Agreement, dated Oct 20, 2020, for 100%. On Apr 4, 2024, the terms were amended to extend the option period for two additional years, expiring on Oct 20, 2026	Dec 21, 1998	N/A as long as fees paid annually	24.4 acres

Mako Mining Corp. is a Canadian resource company engaged in gold mining, project development and exploration activities. Mako operates the high-grade San Albino gold mine in Nueva Segovia, Nicaragua, which ranks as one of the highest-grade open pit gold mines globally and the Moss gold mine in Arizona, which is a bulk tonnage heap leach operation. Mako Mining Corp. has many decades of experience discovering and building mines safely and with respect for the environment and communities across many jurisdictions. The team has built three mines in Latin America since 2011. Mako Mining Corp. is confident that the Eagle

Mountain Project can provide substantial economic benefits, including job creation, infrastructure development, and increased revenue for the region.

The Project is planned to be an open pit mining operation, utilising standard mining techniques to extract gold ore. The Project will be developed in a phased approach, starting with a higher proportion of the soft rock saprolite material and then transitioning to the harder fresh rock in the fifth year of operation.

The Project will employ conventional techniques for mining and processing. The mine will consist of several shallow and medium depth open pits distributed along the north-south mineralised trend and along the north-east trend in several interconnected pits within the Eagle Mountain deposit, extending up the lower slopes approximately 400 metres in elevation higher than the valley floor. The processing plant will employ conventional crushing, grinding, leaching, carbon adsorption and detoxification equipment and processes to maximise gold recovery.

In compliance with national environmental requirements and good international industry practice (GIIP), an environmental impact assessment (EIA) must be undertaken before the development of the deposits into a commercial gold mine. This document is the EIA report for the proposed development which was undertaken by Environmental Resources Management (ERM), on behalf of Stronghold Guyana. This EIA report has been prepared according to the Guyana Environmental Protection Agency's (EPA's) Environmental Impact Assessment Guidelines, Volume 3 Mining, Version 1, August 2000. The EIA report has also been prepared in line with the EPA's approved Terms and Scope (Letter Reference: 20250312-SHGIE, dated 16th February 2026).

This EIA report covers the Stronghold Guyana Eagle Mountain Gold Project, including specified associated infrastructure, facilities and resources to support the Project. Ongoing exploration activities do not form part of this EIA report. Development of future deposits will be subject to separate EIA and authorisation processes.

FIGURE 1.1 EAGLE MOUNTAIN PROSPECTING LICENSE AREA LOCATION

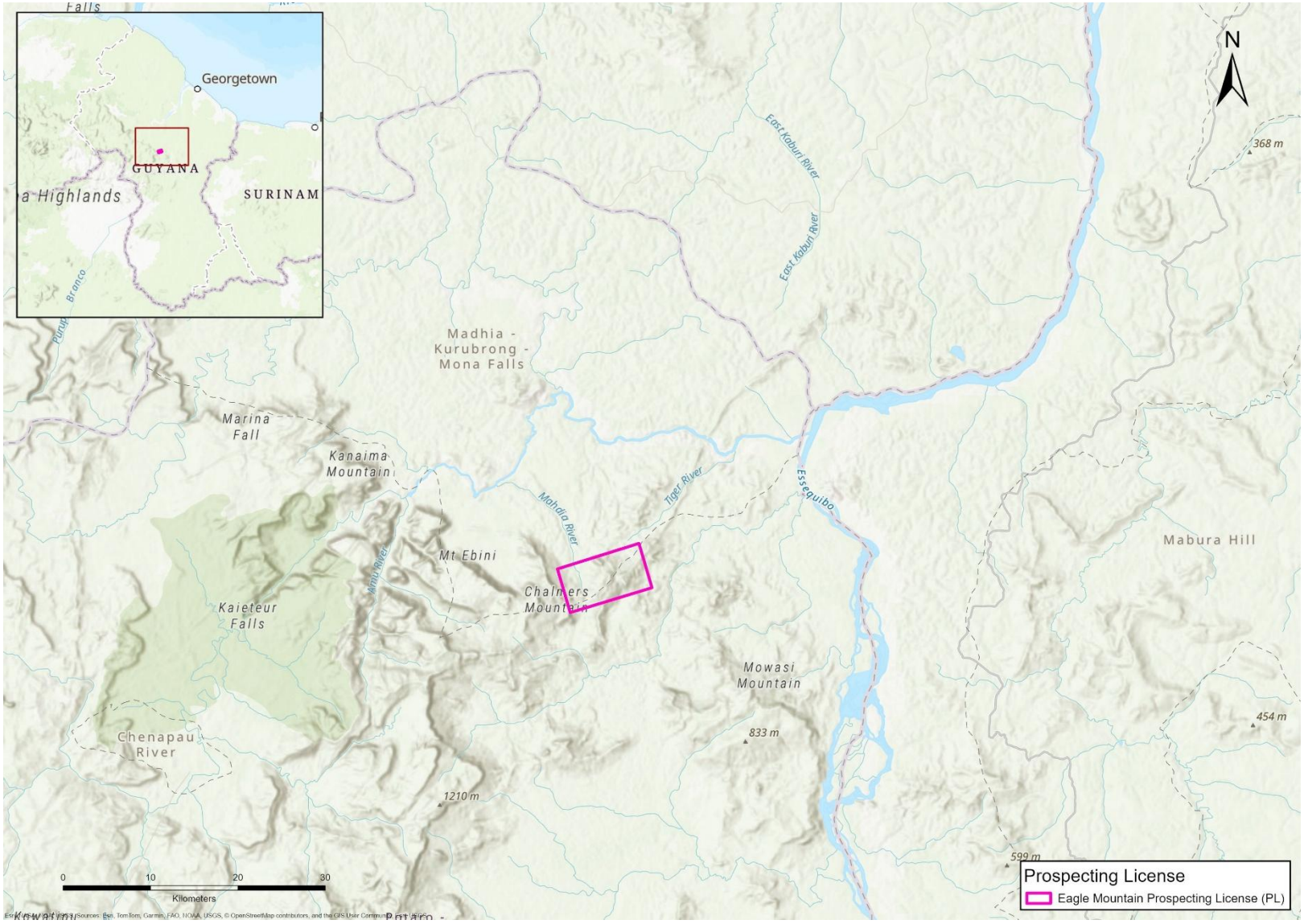
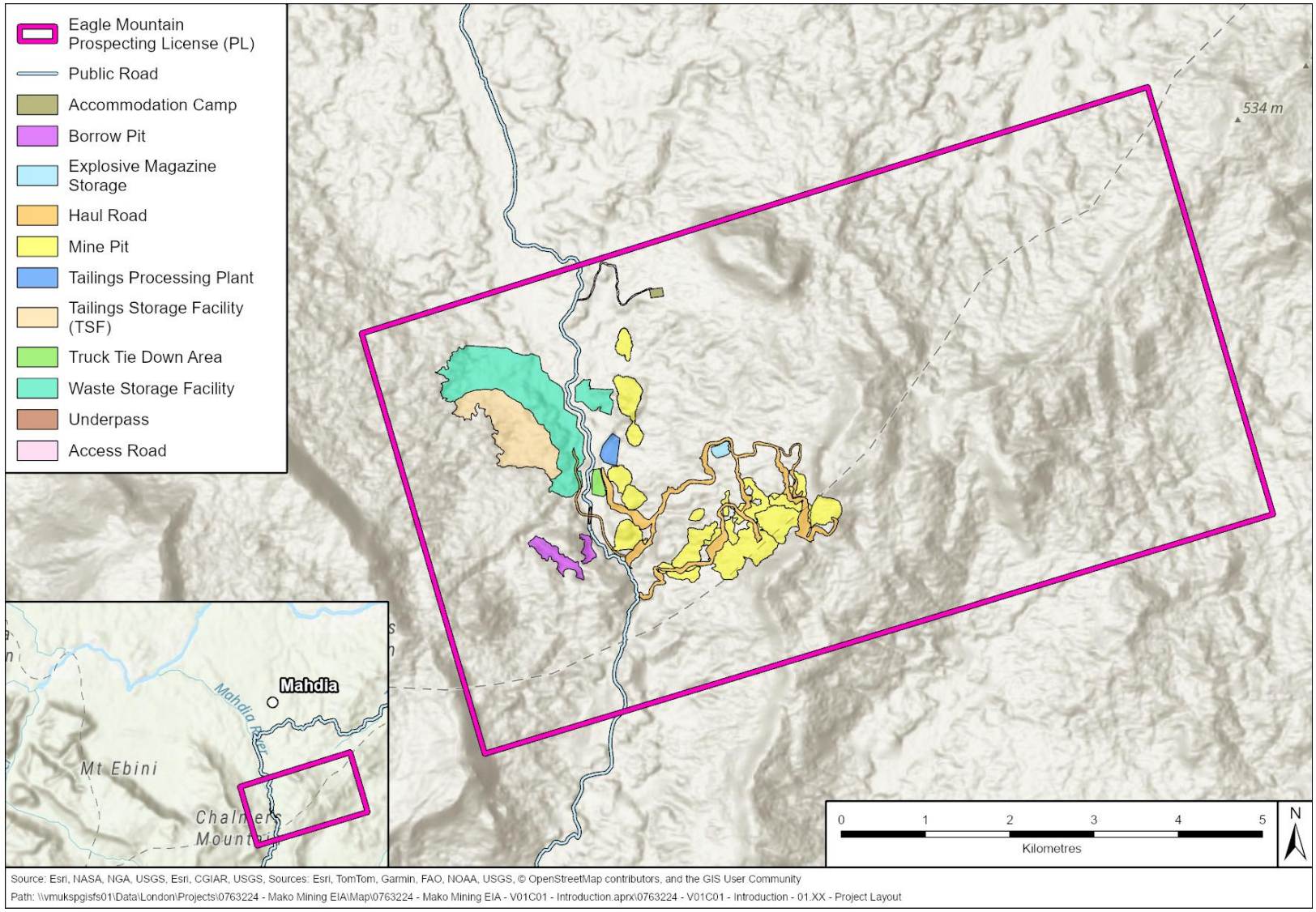


FIGURE 1.2 PROPOSED LAYOUT OF PROJECT FACILITIES



1.2 PROJECT AREA

The Eagle Mountain Gold Project is located in west-central Guyana, Region 8 - Potaro/Siparuni, approximately 200 kilometres south-southwest of Georgetown, the capital of Guyana, between latitudes of 573,600 N and 581,500 N and longitudes of 261,000 E and 271,800 E (UTM PSAD 1956).

The Project is located approximately 8 km south of Mahdia town, Campbelltown, and the Mahdia commercial airstrip. Mahdia can be accessed by road from Georgetown in five to seven hours, approximately 275 km in distance. The road is paved from Georgetown to Linden (109 km), and a wide laterite road extends between Linden and Mabura (122 km) which is currently being upgraded to an asphalt/concrete surface. From there an all-weather unpaved road connects Mabura to Mahdia. The Mahdia airstrip is hard surfaced and is suitable for small commercial and charter passenger aircraft. An unpaved public road provides access to the Project area from Mahdia. Dirt tracks are used within the EMPL.

1.2.1 RESOURCE INFORMATION

Current mineral resources for the Project are estimated at 31.1 million tonnes of Indicated Resources grading 1.18 grams of gold per tonne for contained gold of 1,183,000 ounces. There are also an estimated 18.4 million tonnes of Inferred Resources grading 0.98 grams of gold per tonne for 582,000 ounces.

The current mineral resource estimate is defined by 772 core holes for 75,430 metres drilled up to December 31, 2021, the assay cut-off date for resource estimate.

1.3 PURPOSE AND OBJECTIVES OF THE EIA

This EIA aims to identify environmental and social impacts, as well as mitigation and management measures associated with the Project. The proposed Project has considered the following standards:

- Guyana Environmental Protection Agency (EPA) and GGMC standards (including Codes of Conduct);
- International Finance Corporation (IFC) Performance Standards (PS) on Environmental and Social Sustainability (2012);
- World Bank Group (WBG) Environmental, Health and Safety (EHS) Guidelines: General (2007);
- World Bank Group EHS Guidelines: Mining (2007); and
- Other applicable GIIP (including International Council on Mining and Metals (ICMM) and Towards Sustainable Mining).

The objectives of the EIA process are to:

- Describe the Project;
- Establish the existing status of the physical, biological, socio-economic and cultural environments in the area of the Project;
- Identify, evaluate and manage the environmental and social risks and impacts of the Project in a manner consistent with the EPA requirements and good international industry practise;

- Propose mitigation measures to anticipate and avoid risks and impacts; where avoidance is not possible, to minimise or reduce risks and impacts to acceptable levels; once risks and impacts have been minimised/reduced and mitigated, and restoration undertaken, and where significant residual impacts remain, compensate for or offset these, where technically and financially feasible; and
- Demonstrate compliance with applicable national environmental and social institutions, systems, laws, regulations, and procedures in the assessment, development, and implementation of the Project.

1.4 EIA PROJECT TEAM

The Environmental Impact Assessment has been undertaken by Environmental Resource Management (ERM) and local specialists from the University of Guyana's (UoG) Archaeology Department. The study team assembled for this assignment consists of individuals who are recognised experts in conducting environmental impact assessments in Guyana and elsewhere. This collaboration has resulted in the creation of a unique group of professionals, all of whom have the necessary range and depth of experience and a thorough understanding of local conditions to conduct the EIA to international and Guyana EPA Standards. The key project team and their roles are listed in Table 1.2. The Project Team CVs are included in Appendix E.

TABLE 1.2 KEY TEAM MEMBERS

ERM Team Member	Role	Nationality
Irene Bopp	Project Partner	British
Becky Summons	Project Manager	British
Angharad Owen	Project Management Support	British
Karishma Misir	Water Resources Local Specialist	Guyanese
Mark July	Health and Safety Local Specialist	Guyanese
Atisha Lyttle	Social Local Specialist	Guyanese
Anthea Atkinson	Air and Noise Local Support	Guyanese
Shauncy Henry	Environmental Local Support	Guyanese
Louisa Daggers	Cultural Heritage Local Specialist (UoG)	Guyanese
Indranee Roopsind	Terrestrial Biodiversity Specialist	Guyanese
Raeburn Jones	Terrestrial Biodiversity Specialist	Guyanese
David O'Connor	Cultural Heritage Specialist	Irish
Jessica McIver	Cultural Heritage Lead	South African
Deb Bryant	Surface Water and Sediment Quality Specialist	Canadian
Mertcan Ozbakir	Hydrogeology Specialist	Turkish

ERM Team Member	Role	Nationality
Curtis Mashimbye	Groundwater Specialist	South African
Herbert Pirela	Soil Specialist	American
Yves Verlinden	Air Quality Lead	Belgian
Brian O'Shea	Air Quality Specialist	American
George Chatzigiannidis	Noise Specialist	Greek
Julia Tims	Terrestrial Ecology Specialist	American
Jason Willey	Aquatic Ecology Specialist	American
Gillian Gregory	Socio-economic Specialist	Canadian
Paul Hesketh	Waste Specialist	British
Frank Ocran	Traffic Specialist	British
Niall Olds	Landscape and Visual Specialist	British

1.5 LIMITATIONS AND ASSUMPTIONS OF THE EIA

Project EIA limitations and assumptions are as follows:

- Findings are accurate and complete only to the extent that available data and information were accurate and complete.
- Where detailed data and information were not fully finalised and/or available, assumptions were made, based on good international industry practice, relevant aspects of similar gold mining projects, and relevant specialist experience.
- It is foreseeable that some design aspects may change over time from those presented in the EIA. Re-assessment and/or additional assessment of aspects and impacts may take the form of complimentary and/or additional studies, surveys, investigations, and reviews, during pre-construction, construction, and operational Project phases. This is aligned with the Project's continual improvement approach.
- While these assumptions cover the EIA in its entirety, specific limitations and assumptions provided under various technical disciplines are included in respective EIA chapters.

1.6 COMPONENTS OF THE EIA

The EIA is structured as follows:

Volume 1 – Introduction and Project Overview

- Chapter 2 provides a description of the Project.
- Chapter 3 identifies and discusses the Project alternatives.
- Chapter 4 outlines the legal and institutional framework for environmental compliance by large scale mining operations.
- Chapter 5 outlines the EIA process and methodology.

- Chapter 6 provides the results of the public consultations with a description of the methods and processes applied.
- Chapter 7 describes the scope of the EIA.

Volume 2 – Environmental and Social Baselines

- Chapter 1 to 9 describes the physical environment baseline within the project study area.
- Chapter 10 describes the biological environment baseline within the project study area.
- Chapter 11 to 12 describes the socio-economic and socio-cultural environment within the project study area.

Volume 3 – Impact Assessment and Mitigation

- Chapter 1 provides the risk assessment for the Project.
- Chapter 2 to 7 outlines the impacts on the physical environment and identifies the proposed mitigation.
- Chapter 8 outlines the impacts on the biological environment and identifies the proposed mitigation.
- Chapter 9 to 10 outlines the impacts on the socio-economic and socio-cultural environment and identifies the proposed mitigation.
- Chapter 11 provides the impact assessment for unplanned events.
- Chapter 12 considers cumulative impacts.
- Chapter 13 outlines the environmental and social management plan.
- Chapter 14 provides a summary of the identified impacts and the conclusions of the EIA and describes the recommendations and proposed mitigation measures.
- Chapter 15 provides a list of the references used in the preparation of the EIA.

Volume 4 - Appendices

- Appendix A: Emergency Response Plan
- Appendix B: Conceptual Rehabilitation and Closure Plan
- Appendix C: Waste Management Plan
- Appendix D: Stakeholder Engagement Plan
- Appendix E: EIA Project Team CVs
- Appendix F: Topic Specific Appendices

2. DESCRIPTION OF THE PROPOSED PROJECT

This chapter describes the pre-production, operations, and closure stages of the Eagle Mountain Gold Mine.

2.1 PROJECT LOCATION

The Eagle Mountain Gold Project is located in west-central Guyana, in Region 8 - Potaro / Siparuni, approximately 200 kilometres south-southwest of Georgetown, between latitudes of 573,600 N and 581,500 N and longitudes of 261,000 E and 271,800 E (PSAD 1956).

The Project is located approximately 8 kilometres south of Mahdia Town, Campbelltown, and the Mahdia commercial airstrip. Mahdia can be accessed by road from Georgetown in six to eight hours, approximately 310 kilometres. The road is paved from Georgetown to Linden (109 kilometres), and a wide laterite road extends between Linden and Mabura (122 kilometres) which is currently being upgraded to an asphalt/concrete surface. From there an all-weather unpaved road connects Mabura to Mahdia.

The Mahdia airstrip is hard surfaced and is suitable for small commercial and charter passenger aircraft. An unpaved public road provides access to the Project area from Mahdia.

2.2 RESOURCE INFORMATION

Current mineral resources for the Project are estimated at 31.1 million tonnes of Indicated Resources, grading 1.18 grams of gold per tonne of contained gold, equal to 1,183,000 ounces. There are also an estimated 18.4 million tonnes of Inferred Resources, grading 0.98 grams of gold per tonne for a total of 582,000 ounces of contained gold.

This resource estimate is based on 772 drill holes and 75,430 meters drilled up to December 31, 2021. The data includes information on the drill sites, measurements, gold content, and rock types, and was checked for accuracy using Micromine™ software[1].

Drill samples were examined for rock type, structure, changes, and mineral content, with careful logging of the drill core. Sample lengths varied from 0.3 to 1.5 meters, with softer rock cut by hand and harder rock cut using a special saw. All measurements were in metric units, and gold content was reported in grams per tonne.

The life of mine plan for the Eagle Mountain Gold Project outlines 15 years of operation, split into two phases. During this time, about 27.2 million tonnes of ore is expected to be processed at an average gold grade of 1.26 grams per tonne. This will include a mix of softer and harder rock types. The mine will also produce around 56.6 million tonnes of waste rock, leading to a waste-to-ore ratio of about 2.1:1.

The operation aims for a steady processing rate of 1.815 million tonnes per year, or 5,000 tonnes per day. In Phase 2, it can handle up to 4,250 tonnes per day of harder rock, with support from softer rock. Phase 1 will last 4.5 years and will focus on a higher proportion of the soft-rock saprolite material, while Phase 2 will last 10.5 years and will require more drilling and blasting for the harder fresh-rock material.

[1] Micromine is a suite of software solutions designed for the mining industry, covering the entire mining lifecycle from exploration and geological modelling to mine design, planning, and production.

2.2.1 GEOCHEMICAL CHARACTERISATION

2.2.1.1 SOIL

The soils within the Eagle Mountain Gold Project area are classified primarily as Kandiudults/Eutrochrepts and Udothents/Kanhapludults and are characterised by low natural fertility and high susceptibility to erosion. The topsoil layer is typically thin, often less than 0.3 metres, and overlays a chemically weathered saprolite horizon composed of soft clay to sandy particles.

2.2.1.2 ORE

The ore at the Eagle Mountain Gold Project is hosted in a combination of granodiorite and metavolcanic rocks, with mineralisation occurring in both shallow-dipping deformation zones and steep breccia structures.

Detailed ore characterisation has been conducted through mineralogical, geochemical, and metallurgical testing. Saprolite material is composed primarily of quartz, gibbsite, and kaolinite, while fresh rock includes plagioclase, quartz, and minor sulphides.

Gold occurs mainly as fine-grained native gold and electrum, with an average grain size of approximately 10.8 microns, predominantly in the <50-micron fraction. Comminution testing indicates that saprolite is soft (Bond Ball Mill Work Index ~8.1 kWh/t), while fresh rock is moderately hard (up to 17 kWh/t). Abrasion indices are low, suggesting minimal equipment wear. Gravity recoverable gold (GRG) is low to moderate for both saprolite and fresh rock, averaging between 16 to 25% for saprolite and 8 to 29% for fresh rock, with overall gold recoveries using gravity and cyanidation techniques averaging between 95–97% for saprolite and 85–92% for fresh rock.

2.3 PROJECT ACTIVITIES CONDUCTED TO DATE

2.3.1 EXPLORATION

Exploration-related work carried out at the Eagle Mountain Project between 2011 and 2023 by Stronghold Guyana includes infrastructure improvements, environmental data collection, topographic surveys, line cutting, trench and outcrop sampling, hand auger sampling, ground geophysical surveys, and reprocessing of existing geophysical data.

2.3.2 DRILLING

Since 2011, auger, sonic, and diamond drilling techniques have been employed for prospecting and resource delineation.

Core sampling procedures were similar for 2011 and 2018–2023 diamond drilling, with core retrieved using conventional wireline techniques, placed in plastic core boxes, and transported to the core facility where it was cleaned, marked, logged, photographed, and sampled to a minimum interval of 30 centimetres and a maximum of 1.5 metres. Sample details were recorded in a ticket book, one side placed in the sample bag and the second part stapled on the box.

All drill hole collar locations were surveyed by an independent contractor, for accurate easting, northing and elevation.

2.3.3 ENVIRONMENTAL STUDIES

Some environmental baseline studies have already taken place at the Eagle Mountain site. In 2013, the biodiversity baseline assessment commenced and water quality sampling surveys across the Project were carried out by a local consultant, Environmental Management Consultants (EMC). Another biodiversity assessment was carried out in 2021, to update the data and ensure its accuracy due to the significant amount of time that has elapsed since the 2013 survey. Wet and dry season biodiversity surveys were completed, and the findings were reported in the November 2021 EMC report titled "*Consolidated Report Biodiversity Baseline Assessment Eagle Mountain, Region 8, Guyana*". This work also encompassed to date four (4) assessments:

- Biodiversity Baseline Assessment (2013)
- Surface Water Quality Baseline Study (2013)
- Draft of Environmental and Social Management Plan (2016) and
- Consolidated Report Biodiversity Baseline Assessment Eagle Mountain, Region 8, Guyana (2021)

Further to this, Stronghold Guyana has conducted additional surveys in 2025 focusing on additional biological, geotechnical, hydrology, and hydrogeology surveys and a mercury testing program.

Stronghold Guyana also plans to engage with local communities and potentially affected peoples through public information sessions and consultations. The company aims to address social impacts by supporting local communities, including job retraining and alternative livelihoods for affected populations.

2.4 SURROUNDING PROPERTIES / DATA

The Eagle Mountain Prospecting License (EMPL), owned by Stronghold Guyana (subsidiary of Mako Mining Corp), is the largest claim block in the area, located in the 43SE Map sheet of the Potaro SE Mining District. There are no large-scale significant mineral properties adjacent to the EMPL; however, there are several other individual tenements (medium-and small-scale) around the Property owned by small-scale miners. To the Northeast of the EMPL, there are the communities of Mahdia and Campbelltown, and the South, East and North are predominantly areas which were historically and in some cases are currently mined.

The nearby town of Mahdia was founded in 1884 and is the capital of Region 8 - Potaro/Siparuni. It is reported to have a population of approximately 3,000 people. Campbelltown, an Amerindian village contiguous with Mahdia to the north, has about 300 people. Employment is dependent on local artisanal mining for gold and diamonds and mining related activities. There is a local hospital, regional airport, school, shops, restaurants, a gas station, several mechanical shops, and two hotels/guesthouses. Diesel generators and a recently completed solar farm provide electrical power to the town. Cell phone service is provided by Digicel and One Communication. The use of diesel generators, which supply the majority of Mahdia’s power needs, is typical of inland villages in Guyana.

2.5 PROJECT DESCRIPTION DETAILS

The Project is planned to be an open pit mining operation, utilising standard mining techniques to extract gold ore. The Project will be developed in a phased approach, starting with a higher

proportion of the soft rock saprolite material and then transitioning to more of the harder fresh rock in the fifth year of operation. For both phases, the processing plant will employ a conventional gravity separation and carbon-in-pulp (CIP) circuit to maximise gold recovery.

For the Eagle Mountain Gold Project, a traditional open pit mining method has been selected using truck and shovel techniques. The mine will consist of several shallow and medium depth open pits distributed along the north-south Salbora-Powis trend and several interconnected pits within the Eagle Mountain deposit, extending eastward up to lower slopes of Eagle Mountain, approximately 400 metres in elevation higher than the valley floor.

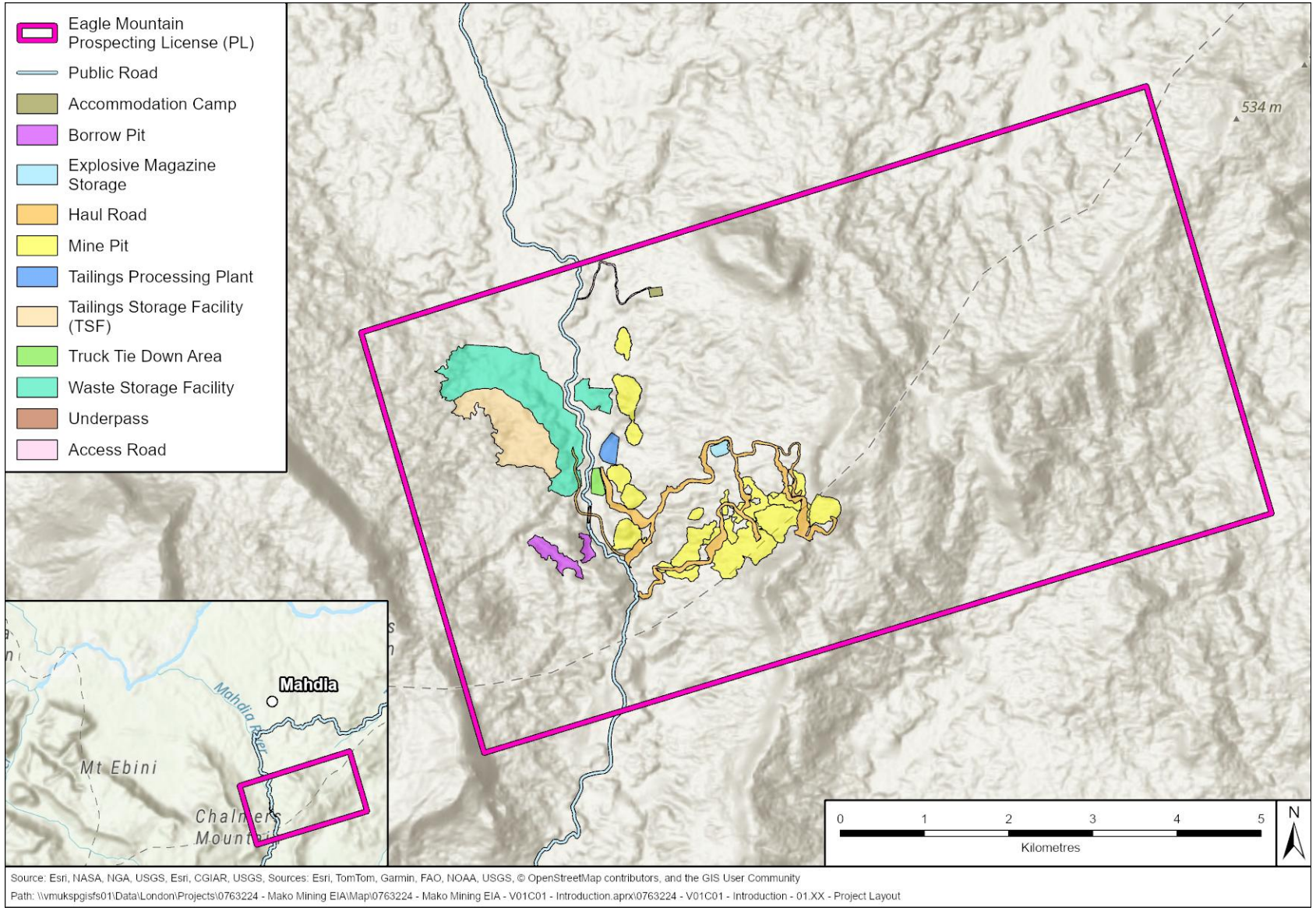
The proposed layout of the optimised pit shells, the waste dumps/waste storage facility (WSF), the tailings storage facility (TSF), haul roads, and the location of the processing facilities are illustrated in Figure 2.1 and the total footprint of the Project facilities is provided in Table 2.1.

TABLE 2.1 SUMMARY OF TOTAL HECTARES POTENTIALLY IMPACTED BY THE PROPOSED PLANNED MINE FACILITIES

Mine Component/Facility	**Approximate Total Area Impacted (Ha)**	**Approximate Area Impacted with Slopes >20% (Ha)**	**Percentage of Total (%) Represented by Slopes >20%**
Mine Pit	137.7	96.8	70.3%
Borrow Pits	14.2	11.4	80.0%
Waste Storage Facility	121.2	27.5	22.7%
Tailings Storage Facility	62.5	30.0	48.0%
Accommodation Camp	1.6	0.6	39.9%
Explosive Magazine Storage	3.0	1.3	44.5%
Processing Plant	6.0	1.9	32.3%
Truck Tie Down Area	4.1	0.0	0.0%
Haul Roads[a]	58.5	50.2	85.9%
Subtotal	*408.7*	*219.8*	*53.8%*
Access Road[b]	9.4	1.2	13.0
Total	**418.1**	**220.9**	**17.2**

[a] The total area includes the main haul road around the southern mine pits.
[b] Includes Main Access Road known as the 'old Potaro-Konawaruk Road' from Mahdia
Ha = Hectares
% = Percentage

FIGURE 2.1 GENERAL PROPOSED LAYOUT OF PROJECT FACILITIES



The Project mine site will include the following:

- An open pit mine.
- A Waste Storage Facility (WSF).
- A run-of-mine storage area ahead of a crushing plant.
- A processing plant, including cyanide destruction.
- A Tailings Storage Facility (TSF).
- Process water holding tanks.
- An accommodation camp.
- Maintenance shops.
- Fuel and chemical storage.
- Haul roads and other access roads.
- Waste management facilities; and
- Other miscellaneous on-site infrastructure.

The transportation routes supporting the Project (collectively referred to herein as the Transportation Corridor) include the following:

- Use of the existing public roads and ferries from Linden to Mabura/Mahdia;
- Use of the existing 'old Potaro-Konawaruk Road' from Mahdia;
- Use of commercial airstrip at Mahdia;
- Use of pontoon ferry on the Essequibo River at Mango Landing;
- Upgrade of unpaved road between Mahdia and the EMPL; and
- Transport of the final product (gold doré) from the Mahdia airstrip via airplane to Georgetown Airport for export to an accredited gold refinery.

The coordinates of the project facilities and associated access roads are presented in Figure 2.2 and Table 2.2.

FIGURE 2.2 PROJECT FACILITIES AND ACCESS ROADS COORDINATES REFERENCE MAP

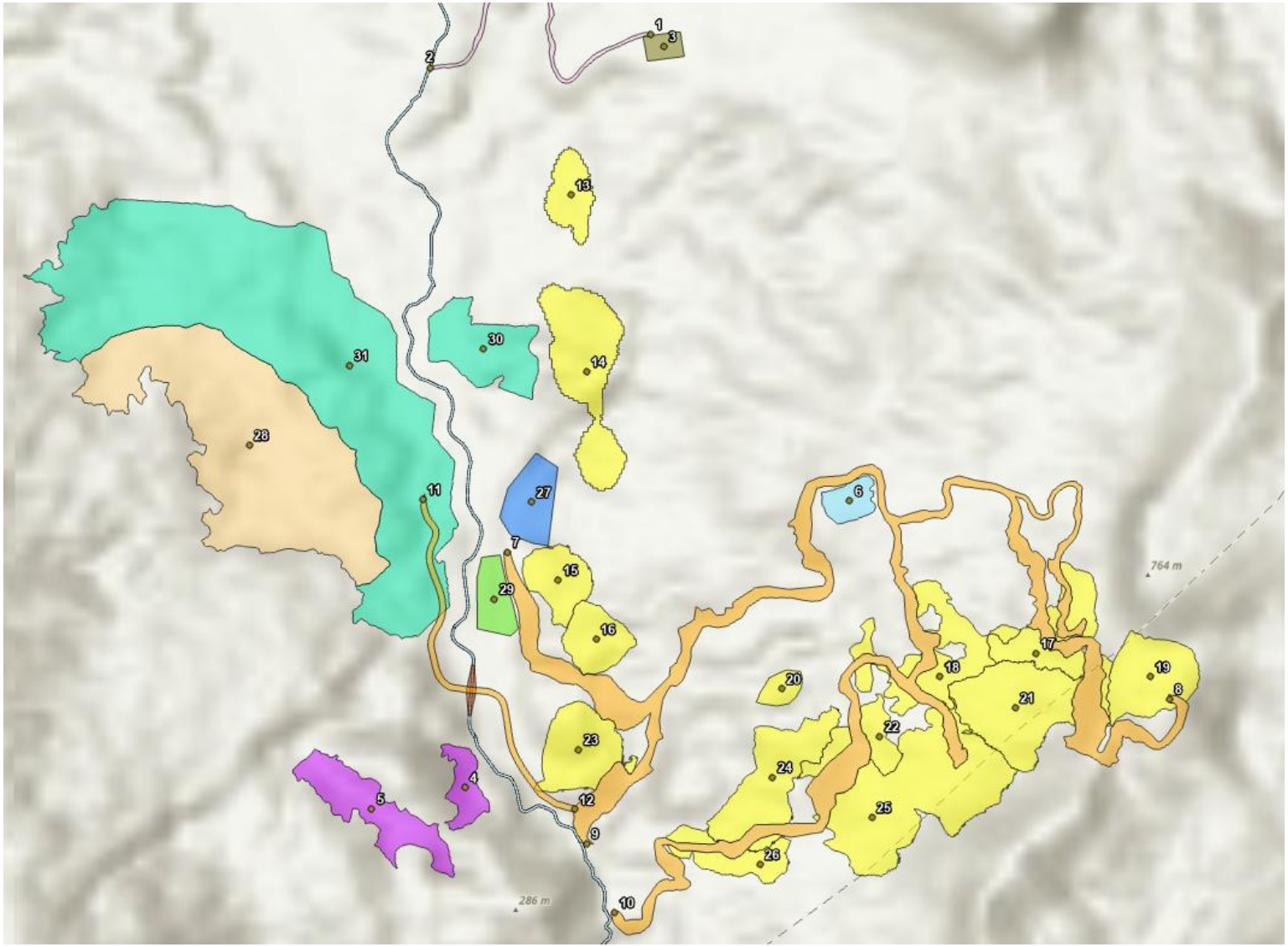


TABLE 2.2 PROJECT FACILITIES AND ACCESS ROADS COORDINATES

ID	Project Facility	X Coordinate	Y Coordinate
1	Access Road	264402	579120.5
2	Access Road	263495.6	578980.8
3	Accommodation Camp	264456.9	579070.6
4	Borrow Pit	263640	576028.6
5	Borrow Pit	263258	575940.7
6	Explosive Magazine Storage	265221.3	577204.5
7	Haul Road	263812.9	576994.5
8	Haul Road	266534.2	576391.7
9	Haul Road	264139.8	575798.9
10	Haul Road	264255.5	575515
11	Haul Road Extension	263466.4	577211
12	Haul Road Extension	264090	575937.9
13	Pit	264074.8	578461
14	Pit	264138.6	577735.3
15	Pit	264024.1	576879.6
16	Pit	264177.9	576637.3
17	Pit	265983.7	576578.9
18	Pit	265590.6	576483.2
19	Pit	266455	576482.7
20	Pit	264939.6	576433.9
21	Pit	265899.6	576356.2
22	Pit	265343.2	576237.7
23	Pit	264108.3	576184.1
24	Pit	264904.2	576071.1
25	Pit	265310.4	575905
26	Pit	264852.2	575712.5
27	Processing Plant	263913.2	577199.7
28	Tailings Storage Facility	262754.2	577433.3
29	Truck Tie Down Area	263762	576803
30	Waste Storage Facility	263717.5	577829.2
31	Waste Storage Facility	263166.1	577761.4

2.5.1 PROJECT PHASES

The Project includes three phases: pre-production (which includes construction, commissioning, and start-up), operations, and closure. The pre-production phase includes all activities required to build the mine and bring the processing plant into commercial operation. Operations is the phase during which the processing plant is producing gold. Closure describes the phase after production, during which Stronghold Guyana will stabilise the site so that it can be left in a sustainable state long-term; the closure phase ends when the Project moves into post-closure, when Stronghold Guyana no longer has the responsibility of maintaining or managing the site.

The key activities for the pre-production through closure phases are summarised in the generalised Project schedule presented in Table 2.3.

TABLE 2.3 GENERALISED PROJECT SCHEDULE

Phase and Planned Timing	Activities
Pre-production (Construction, Commissioning and Start-Up) (Year 0-2)	• Creation of new pre-production phase camp • Construction of non-hazardous landfill(s) • Site preparation at the processing plant, including clearing and levelling • Construction of sediment dams and site drainage features (ditches, ponds, site diversion channels) • Construction of the haul and access roads • Construction of the Tailings Storage Facility (TSF) and Waste Rock Storage Facility (WSF) • Stripping of pit area, excavation and stockpiling of saprolite ore and soil • Construction of the operations phase camp • Construction of the processing plant, and supporting infrastructure • Production of aggregates from a borrow pit for concrete production • Commissioning and start-up of processing plant • Construction of the WSF • Construction of operational landfill • Construction of the explosives storage facilities
Operations (Year 1-15)	• Mining at pit/s • Operation of processing plant, WSF and TSF
Closure (after Operations are complete)	• Revegetation of WSF and other disturbed areas • Establishment of long-term water management at TSF • Decommissioning of processing plant and other facilities

Additional details regarding the Project phases are provided below. It should be noted that the following details are based on a preliminary conceptual design, and the design elements will be subject to further optimisation. Moreover, details on the design of mine infrastructure, specifications on equipment and machinery, and logistical plans for the Project are being studied and finalised.

2.5.1.1 EARLY WORKS

Key early-stage activities include road construction, site clearing for the plant, camp, and tailings facilities, and installation of security gates.

Environmental and safety measures will be implemented from the outset, including dust suppression, erosion control through managed land clearing and drainage, and contingency planning for fuel, chemical, and construction-related risks.

2.5.1.2 PRE-PRODUCTION

The pre-production phase includes activities required to build the mine infrastructure and start-up the processing plant until it reaches at least 60 percent of its nameplate capacity, including:

- Recruitment and training;
- Opening of the borrow pits for construction materials;
- Construction of sediment control structures;
- Clearing of the TSF and clearing and grubbing at the Eagle Mountain pit site;
- Stockpiling of soil;
- Construction of the main TSF starter dams;
- Construction of roads, stockpiles, run-of-mine pads, etc.
- Preparation of the fuel tank storage facilities;
- Earthworks and surface preparation of the WSF;
- Construction of the main camp, including offices and worker accommodations;
- Construction of the processing plant, warehouse, maintenance shops, administration building, first aid and safety offices and main power plant with distribution of electric power;
- Import of major pieces of equipment such as mills, excavators, mine trucks, batch plants/crushers/conveyors/; and
- Commissioning and start-up of the processing plant.

Pre-production activities will be conducted with Stronghold Guyana and contractor equipment. The Project will focus on recruiting and training supervisors, operators, and maintenance personnel to commence activities in the field as rapidly as possible.

Major earthworks will be conducted with the main mining fleet. This may include Stronghold Guyana's equipment and that of contractors. A smaller fleet is proposed for the construction of the temporary sediment ponds downstream of the initially disturbed areas. Part of the smaller fleet will also be working at the camp and mill site pads assisting the construction team with miscellaneous small jobs.

2.5.1.3 OPERATIONS

Operations are considered to begin when the processing plant is operating at approximately 60 percent of the nameplate capacity. Operations phase activities will include:

- Open-pit mining;
- Tailings management;
- Waste rock management;
- Ore processing;
- Operation of accommodations, including sourcing, treatment, and delivery of potable water; sewage treatment; and domestic waste management;
- Transport of supplies into the facility and gold out of the facility;

- Transport of mine employees between the Project site, Mahdia/Campbelltown, Linden, and Georgetown or other nearby towns;
- Solid waste management; and
- Power generation.

2.5.1.4 CLOSURE

Closure is considered to begin once the processing plant is no longer operating. Closure activities will include those required to return the site to current conditions to the extent practicable. Activities will also be required to ensure public safety related to the post-operations TSF and pit areas. Closure activities will include:

- Revegetation using a seedlings facility (or the facilities of GFC who have seedlings) to be developed in the mine site area, with a focus on native species to restore ecosystems and prevent soil erosion;
- Backfilling of pits where prudent, and pit lake management, if necessary;
- Any required site grading to ensure appropriate long-term site drainage;
- Stabilisation of slopes and application of stockpiled organic soil to accelerate natural revegetation via self-seeding from surrounding jungle;
- Establishment of a long-term water management system at the TSF and across the site, if necessary;
- Decommissioning and removal of infrastructure, including processing plants, facilities, and hazardous materials, with potential for recycling or resale of usable materials; and
- Environmental monitoring.

The closure phase ends after all closure works are completed in accordance with closure performance specifications (to be established in a closure plan), at which point the Project will move into post-closure, during which the site can be left in an unmaintained state.

2.5.2 PROJECT FINANCES

2.5.2.1 CAPITAL AND OPERATING COSTS

The basis for the following financial estimates is taken from the Preliminary Economic Assessment (ERM, 2024). The total capital costs (pre-production and sustaining) for the Project are estimated at US$295.6 million. The pre-production capital costs for Phase 1 are estimated at US$95.6 million, including a US$12.5 million contingency. The pre-production capital costs for Phase 2 (to be incurred in Years 4 and 5) are estimated at US$46.6 million, including a US$5.8 million contingency. Sustaining capital costs are estimated at US$133.4 million and closure costs at US$20.0 million. The total capital costs are summarised in Table 2.4.

TABLE 2.4 CAPITAL COST SUMMARY

CAPEX Description	Cost (US$M)
Preproduction Phase 1 - Direct Costs	65.0
Phase 1 – Indirects, Owners Costs, Contingency	30.5
Phase 2 - Direct Costs 32.3	32.3

CAPEX Description	Cost (US$M)
Phase 2 – Indirects, Owners Costs, Contingency	14.3
Sustaining Costs	133.4
Reclamation	20.0
Total Life of Mine (LOM) CAPEX	**295.6**

The total operating costs are estimated at US$786 million, or US$28.88/t processed over the LOM. The total operating costs are summarised in Table 2.5.

TABLE 2.5 UNIT OPERATING COST SUMMARY

Description	Total Cost (US$M)	Unit Cost (US$)	Unit
Mining	202	2.40	US$/t mined
		7.40	US$/t processed
Processing	448	16.47	US$/t processed
Rehandle	4	0.13	US$/t processed
G&A	123	4.50	US$/t processed
Other	8	0.28	US$/t processed
Rent	1	0.03	US$/t processed
Mobilisation	2	0.07	US$/t processed
Total	**786**	**28.88**	**US$/t processed**

2.6 PROJECT INFRASTRUCTURE

2.6.1 MINE SITE

The proposed mine site will compromise open pit mines, waste dumps, tailings storage facilities, haul roads, and processing facilities.

2.6.1.1 MINE PITS

A traditional open pit mining method has been selected using truck and shovel techniques. The mine will consist of several shallow and medium depth open pits distributed along the north-south Salbora-Powis trend and several interconnected pits within the Eagle Mountain deposit, extending eastward up the lower slopes of Eagle Mountain approximately 400 metres in elevation higher than the valley floor.

Mining will be executed in two main phases:

- Phase 1 targets a higher proportion of saprolite material, which will be mined using free-dig open pit methods. Phase 1 also includes the mining of the underlying fresh rock ore and waste, which will require drilling and blasting activities. Localised unweathered boulders and dolerite dykes within the saprolite layer will also require blasting.

- Phase 2 involves the mining and processing of a higher proportion of harder fresh rock material, which will require conventional drilling and blasting techniques to facilitate extraction.

Mining in Phase 1 will primarily use articulated dump trucks (ADTs), such as the Caterpillar 740 or equivalent, and hydraulic excavators or wheel loaders, depending on terrain and contractor equipment. Material will be hauled to the processing plant, Run of Mine (ROM) stockpiles, or waste dumps depending on the material type.

Starting in approximately year five (5), drilling and blasting will be used regularly to ensure that the transition and fresh rock can be loaded and hauled by mining equipment.

Phase 2 will require open pit drill rigs and a more intensive drill-and-blast operation to fragment harder rock types. The mine plan assumes a peak mining rate (ore plus waste) of 23,000 tonnes per day (ktpd), with an average of 15 ktpd over the LOM.

Over the Life of Mine (LOM), a total of 42.9 million cubic metres (m^3) of material will be mined, including 13.5 million m^3 of mill feed (ore) and 29.5 million m^3 of waste rock. Stockpiles will be managed by material type and grade, and waste rock will be deposited in engineered dumps located primarily north of the Eagle Mountain deposit.

The mine layout and sequencing are designed to maintain consistent mill feed rates and optimise haulage efficiency.

Pits Design Criteria

Open Pit Design

The pit design incorporates geotechnical recommendations and operational efficiency:

- Bench height: 6.0 m, with double benching up to 12.0 m where appropriate.
- Berm width: 9.5 m.
- Inter-ramp angles: 35° for saprolite, 40° for transition, and 45° for fresh rock.
- Ramp width: 30.0 m with a maximum gradient of 10%.

Drilling and Blasting

Drilling and blasting are required primarily in transition and fresh rock zones. Assumed design parameters are as follows:

- Blasthole diameter: 127.0 mm.
- Burden and spacing: ranges from 4.0 m to 5.5 m depending on material type.
- Powder factors: 0.10 kg/t for saprolite, increasing to 0.18 kg/t for fresh rock.
- A 10% re-drilling contingency is included to account for difficult ground conditions.

Pit Optimisation

Pit optimisation was conducted using industry-standard software and economic assumptions:

- Gold price: US$1,850/oz.
- Processing recoveries: 97% for saprolite, 92% for fresh rock at Eagle Mountain, and 82% at Salbora.
- Mining recovery: 98%, with 2.5% dilution.

- Mining costs: US$2.10/t for saprolite and US$2.75/t for fresh/transition rock.
- Processing costs: US$11.00/t for saprolite and US$21.00/t for fresh/transition rock.
- General and administrative (G&A) costs: US$3.00/t.

2.6.1.2 PROCESS WATER AND POTABLE WATER

The Eagle Mountain Gold Project relies on reclaimed water from the Tailings Storage Facility for processing needs, supplemented by fresh water from groundwater wells and creeks.

Potable water will be treated on-site, and dust suppression will be managed using water trucks. A separate fire water system will ensure emergency readiness.

Sedimentation ponds will control contact water and seepage, while effluent treatment will handle discharge compliance.

Dewatering will utilise gravity drainage where possible, with in-pit pumps and perimeter wells supporting deeper pits.

Water sourcing includes natural springs and aquifers, with future wells planned for additional supply.

2.6.1.3 CHEMICAL USE

The chemicals to be utilised for the Project and their storage are provided in Table 2.6 (monthly estimates). Quantities of vehicles and deliveries per month are provided in Section 2.6.9.5.

TABLE 2.6 MONTHLY ESTIMATES OF WEIGHTS REQUIRED AND STORAGE

Name	Amount/Month	Units	Storage
NaCN	300,000	Kg	dry, 18-ton ISO containers
Lime	608,000	Kg	dry, 1-ton bags
HCl	4,692	Kg	liquid, 55-gal drums
NaOH	29,000	Kg	beads, 1-ton bags
SMBS	147,000	Kg	dry, 1-ton bags
CuSO4	9,000	Kg	dry, flake, 1-ton bags
Fe2(SO4)3	315,000	Kg	similar to CuSO4
Antiscalant	6,100	Kg	assumed bulk poly/caged container, palletised
Flocculant	23,000	Kg	dry, pallet 25 kg bags
Activated Carbon	4,000	Kg	dry, 1-ton bags
Diesel/HFPO	1,258,000	Liters	liquid, litres, tanker truck
Gasoline	25,000	Liters	liquid, litres, tanker truck
Propane	334,583	Kg	liquid, tanks
Explosives	27,619	Kg*	boxed ‘sausages’, boxed boosters, detonators

* Emulsion Only

All reagents and chemicals will be transported in 20-foot, carrier-owned containers. Wherever possible, containers will be moved directly from Georgetown to the project site, with no intermediate staging or double handling.

Containers will be unloaded at site, and empty units returned to the shipping carrier within the standard free-time period (typically 7 days). Some containers will also be required on site for storage, offices, and ancillary uses; these units will not return to port and would instead be purchased.

2.6.1.4 MINING EQUIPMENT

The Projects mining fleet requirements are estimated Table 2.7. A fleet of approximately 10 trucks will be required during Phase I of the operation then increasing to 17 in Year 11 and as high as 25 trucks in Year 14 (pre last year of production). Three excavators will be required during Phase I increasing to five during Phase II. Additionally, one spare will be kept on standby.

TABLE 2.7 MAIN OPEN PIT EQUIPMENT (LIFE-OF-MINE AVERAGE)

Item	Type (Illustrative)	Units (Average)
Excavator	CAT 374	5
Haul Truck	CAT 740	24
Rotary Drills	Epiroc - DM30 II SP	2
Bulldozer	CAT D10	1
Loader	CAT D8	4
Loader	CAT950	1
Grader	CAT12M	2

2.6.1.5 ANCILLARY EQUIPMENT

Ancillary equipment such as bulldozers, graders, and water trucks will be used to maintain haul roads, ramps, and dumps. Smaller excavators and dozers will manage drainage and surface water control (Table 2.8).

TABLE 2.8 OPEN PIT ANCILLARY EQUIPMENT (LIFE-OF-MINE AVERAGE)

Equipment	Units (Average)
Boom Truck	1
Telehandler	1
Mobile Rock Breaker	1
Crane 60-100 tonne	1
Powder Truck	1
Stemmer/Skid Steer	1
Forklift	1
Personnel Carrier	3

Equipment	Units (Average)
Pick-Up Truck	16
Ambulance	1
Sand/Aggregate Dump Truck	1
Water Truck	1

2.6.1.6 WASTE ROCK STORAGE FACILITIES

Waste rock removed from the open pits will be transported and placed in waste storage facilities (WSFs), located west of the Eagle Mountain and Salbora deposits. The main waste dump, adjacent to the TSF, is west of the N-S public road and in the northern part of the EMPL, where the lithologies comprise saprolite and underlying sedimentary and volcanic rocks.

The waste rock and tailings produced by mining operations is classified as low risk due to minimal sulphide content, meaning that it has low acid drainage and leachability potential.

The layout of the waste dumps is shown in Figure 2.1.

The total volume of waste rock produced in the open pit mining operations is based on the selected optimised pit shells created for the Preliminary Economic Assessment (PEA), which will be equivalent to approximately 28 Mm^3.

Saleable Waste Storage Facilities

It may be proposed that separate WSFs be created for waste rock that will be used for site construction and/or potential sale to external buyers.

The WSFs will be designed such that waste with favourable physical construction properties will be segregated for easy recovery should economic factors change such that the waste would become sufficiently attractive economically to process and sell for road construction or other purposes.

2.6.2 PROCESSING PLANT

The development of the processing plant has been separated into two phases. The activities conducted per Phase is provided in Table 2.9.

TABLE 2.9 PHASES OF PROCESSING PLANT (RECOVERY PROCESS)

Phase I – Saprolite and Fresh Rock	Phase II – Fresh Rock and Saprolite
• Stockpiling; • Crushing • Milling; • Gravity Concentration; • Pre-Leach Thickener; • Leach and Carbon-in-Pulp; • Carbon Management Circuit; • Refinery; • Detoxification; • Tailings disposal; • Reagents; • Water Management; and • Service Area.	• Crushing and Stockpiling; • Milling; • Gravity Concentration; • Pre-Leach Thickener; • Reagents. • Sections without changes: • Leach and Carbon-in-Pulp; • Carbon Management Circuit; • Refinery; • Detoxification; • Tailings Disposal; • Water Management; and • Service Area.

2.6.2.1 DESCRIPTION OF PROCESSING PLANT PHASE 1

For Phase 1, the process flowsheet includes crushing, scrubber, ball mill, cyclones, gravity concentrators, leach tanks, CIP circuit, carbon stripping circuit, and effluent treatment. While the back end of the plant, downstream of the grinding circuit, is similar for both phases, additional screening, crushing and grinding, and additional power generation equipment are required for Phase 2 to treat the higher proportion of fresh rock material.

Crushing and Stockpiling

Saprolite mill feed from the ROM stockpile is reclaimed by a front-end loader to feed a fixed grizzly. The material is fed via an apron feeder to a secondary grizzly. Coarser material and associated fresh rock are crushed, screened and directed to the ball mill for grinding.

Milling

Phase 1 milling consists of a double deck screen followed by a ball mill in a closed circuit with a cyclone cluster. Oversize from the top deck of the screen reports to a stockpile for reprocessing.

The material reporting to the lower deck oversize (the Intermediate) is conveyed to the ball mill.

The screen undersize material (fines) reports to the cyclone feed pump box and then to a cyclone cluster. Cyclone overflow reports to a trash screen where plastic, wood and other tramp materials are removed. The undersize of the trash screen reports to the CIP pump box. The slurry is then pumped to Leach Tank 1 via the CIP feed pump.

The cyclone underflow is directed to the gravity circuit. The gravity concentrator tails are pumped to the ball mill feed chute. The discharge of the ball mill flows into the cyclone feed pump box.

A trommel at the ball mill's discharge protects the cyclone feed pump by removing the coarser and harder material (scats). The scats will be stockpiled for processing in Phase 2.

Gravity

The portion of the cyclone underflow that is directed to the gravity circuit is fed across a scalping screen. The oversize is returned to the ball mill. The undersize is directed to a magnet to remove steel tramps prior to the recovery of gravity gold. The concentrate is sent to a secured temporary holding bin, and moved daily into the refinery for further processing and/or smelting.

The slurry rejected by the gravity concentrator is returned to the ball mill feed chute.

Leach and Carbon-in-pulp (CIP)

The undersize portion of the trash screen feeds the leach and CIP circuit. The leach and CIP circuit is expected to consist of several agitated tanks: five (5) leach tanks and up to seven (7) CIP tanks to provide a total residence time of between 24 and 48 hours for Phase 1 ores.

Oxygen or compressed air will be sparged to the tanks to maintain optimum dissolved oxygen levels for leaching. Hydrated lime is added to bring the pH to the operating set points. Cyanide solution is added to Leach Tanks #1, #2 and the CIP Tanks #1 and #2.

Fresh/regenerated carbon from the carbon circuit is fed to the last tank (CIP Tank #7). The carbon in the CIP tanks is pumped counter-current. Slurry from the last CIP tank flows to the safety carbon screen to capture any carbon that might exit the CIP tanks.

Each CIP tank is fitted with:

- Two interstage screens (one operating and one standby);
- Oxygen/compressed air spargers;
- An agitator;
- A carbon transfer pump.

Loaded carbon is transferred from the first CIP tank to the carbon elution circuit via the Loaded Carbon Screen.

Carbon circuit

Loaded carbon, recovered by the loaded carbon screen, is discharged into the acid wash vessel where hydrochloric acid is introduced to remove the carbonate scale trapped in the carbon during the CIP stage. The acid solution in the vessel is neutralised with sodium hydroxide. The solution is drained, and the loaded carbon is rinsed with water and transferred to the elution vessel for stripping.

At high temperature (up to 140 °C) and under pressure, a solution consisting of fresh water, sodium hydroxide and cyanide is introduced into the elution vessel. The solution strips the gold from the carbon, resulting in a pregnant leach solution with a high concentration of gold. The solution is cooled and then passed through the electrowinning cells, where gold is precipitated onto cathodes. The barren solution is then reused in the elution vessel after reheating.

The eluted carbon is transferred to a kiln (operated at 650-700 °C) for regeneration of the carbon. The carbon is then quenched in water and transferred to the carbon-sizing screen to remove undersize carbon (carbon fines). The oversize carbon is directed to a holding tank until transfer to CIP Tank #7. The undersize carbon is dewatered and stored in bags for third-party processing.

Refinery

The electrowinning cells are periodically emptied and cleaned using a pressure washer to recover gold sludge that is deposited and precipitated in the electrowinning cell. The sludge is then filtered in a filter press. In order to remove potential mercury recovered through processing of Eagle Mountain project ores, the electrowinning sludge will be processed in a vacuum retort. The dried and retorted solids will be mixed with the gravity table concentrate and fluxes and then smelted in a furnace. The melted material is poured to produce doré bars and various contaminants are collected in the melt slag. The slag is processed and collected and held or disposed of depending on its associated value. The electrowinning, retorting, tabling, and smelting processes take place in a secured and supervised refinery area.

Detoxification

Detoxification testwork was completed on the saprolite and fresh rock material. The typical SO2/air process, reducing CNwad to <5 ppm. CIP tailings slurry passing through the carbon safety screen is discharged into cyanide detoxification tanks.

Cyanide detoxification will take place using the SO2/air process. In this process, sodium metabisulphite (SMBS) and oxygen are used to destroy the cyanide. This reaction is done at a controlled pH and uses copper sulphate as a catalyst. Lime is used to maintain the pH of the reaction. The cyanide detoxification makes use of tanks that have each been sized for a total residence time of 40 minutes or more.

Reagents

The main reagents required for the chemical treatment (leaching) of the mill feed can be summarised as follows:

- Hydrated lime ($Ca[OH]_2$): pH control in the leach, CIP and detoxification circuit.
- Sodium Cyanide (NaCN): main gold leaching reagent in the CIP circuit.
- Flocculant: chemicals used to enhance the settling of fine particles
- Sodium Hydroxide (NaOH): pH control and reagent in the carbon elution and cyanide preparation.
- Hydrochloric Acid (HCl): removal of carbonate scale from the activated carbon in the acid wash circuit.
- Copper sulphate (CuSO4): catalyst in the detoxification reaction.
- Sodium Metabisulfite (Na2S2O5): reagent and source of SO2 in the detoxification circuit.
- Activated coconut shell carbon: adsorption of dissolved gold in the CIP circuit.
- Flux ingredients composed of silica, nitrate and soda ash and fluorspar.

Tailings disposal

Detoxified tailings slurry is pumped to a TSF, where the solids settle to the bottom of the tailings pond and water can be reclaimed. Reclaimed water is pumped back and reused as process water within the plant.

Service Area

The process plant is supplied with both compressed and dried instrument air. Compressors first supply air for general process use, leaching and detoxification through a primary receiver. A fraction of the compressed air is diverted to be dried and filtered for instrument use.

An oxygen plant may provide oxygen for the leaching and detox processes.

Water Management

The process uses reclaimed process water and fresh water to maintain the plant water balance. Fresh water is used to supply gland seal pumps, water for reagent mixing and the elution circuit. The process water is sourced from the reclaimed water and the return water from the TSF.

2.6.2.2 DESCRIPTION OF PROCESSING PLANT PHASE 2

In Phase 2, only the sections where modifications occur are presented. For the description of the sections that do not change, refer to the above description in Phase 1.

Sections with changes:

- Crushing and Stockpiling; and
- Milling.

Sections without changes:

- Leach and Carbon-in-pulp;
- Carbon Management Circuit;
- Gravity Concentration;
- Refinery;
- Detoxification;
- Tailings Disposal;
- Reagents
- Water Management; and
- Service Area.

Crushing and Stock-pilling

Phase 2 will process a higher proportion of transition and fresh rock, which are harder than saprolite and require the additional crushing, milling and power infrastructure.

In Phase 2, the saprolite mill feed from the ROM pad is reclaimed by a front-end loader to feed a fixed grizzly. The oversize material is reclaimed and transferred to the Fresh Mill feed Crushing Circuit. The grizzly undersize is directed to the scrubber via an apron feed and mill feed conveyor.

For the fresh and transition rock a front-end loader feeds a fixed grizzly with oversize broken down by a rock breaker. Oversize rocks are directed to the jaw crusher. The crusher discharge and fines are conveyed to the crushed mill feed stockpile.

Milling

In Phase 2, a SAG mill, a cone crusher, apron feeders and conveyors are added to the milling circuit.

The apron feeders reclaim crushed mill feed and transfer to the SAG mill via the mill feed conveyor. The SAG mill trommel oversize and scrubber discharge are fed across a double-deck screen. Oversize from the top deck is directed to a pebble (cone) crusher for further size reduction. A self-cleaning magnet protects the crusher from tramp iron. The crusher discharge and fine oversize portion are redirected to the SAG mill. The screen undersize is combined with the SAG and ball mill discharges, after which the slurry follows the same process route as Phase 1.

Pre-leach Thickening

For Phase 2, and potentially Phase 1, a pre-leach thickener is incorporated in the circuits between the trash screen and Leach Tank #1. The undersize of the trash screen feeds the pre-leach thickener, where the slurry is thickened to achieve approximately 50 % solids. The thickener underflow is then directed to Leach Tank #1. The overflow of the Pre-leach Thickener serves as make-up water. Since the percent solids feeding the leach and CIP circuit is higher in Phase 2.

2.6.2.3 PROCESSING PLANT DESIGN CRITERIA

The processing design criteria for the Eagle Mountain Gold Project were developed based on metallurgical test work conducted in 2018, 2022, and 2025, and are tailored to the two-phase development strategy of the project.

The process plant is designed to treat up to 5,000 tonnes per day (tpd) of gold-bearing mill feed, with a total operational life of 15 years (4.5 years for Phase 1 and 10.5 years for Phase 2). The plant configuration and equipment selection vary between the two phases to accommodate the differing characteristics of saprolite and fresh/transition rock.

Key Design Parameters – Phase 1 (Saprolite with minor Fresh Rock):

- Throughput: 1.825 Mt/year (226 t/h)
- Average Recovery: 95.1%
- Bond Work Index (BWI): 7 kWh/t
- Ball Mill Power: 1,500 kW
- Leach Retention Time: 24-48 hours
- Carbon Concentration: 10-20 g/L

Key Design Parameters – Phase 2 (Fresh/Transition Rock with minor Saprolite):

- Throughput: 1.64 Mt/year (up to 4,250 tpd fresh/transition rock)
- Average Recovery: 88.9%
- BWI: 16.3 kWh/t (average for fresh rock)
- SAG and Ball Mill Power: Sized accordingly
- Leach Retention Time: 24–48 hours

2.6.3 TAILINGS STORAGE FACILITY

The total volume of tailings produced over the LOM will be approximately 17.2 Mm^3. The TSF, located in the northern portion of the EMPL in a localised topographic low, will provide storage for an estimated minimum of 7 years of operation in which the tailings are mix of saprolite and fresh rock material (Figure 2.1).

2.6.3.1 TAILINGS CHARACTERISATION, ARD POTENTIAL, AND MANAGEMENT

Geochemical and metallurgical testing on saprolite and fresh rock included assaying, mineralogy, gold deportment, Bond Work Index, abrasion index, and cyanide leach assessments. Sulphur content was below 0.05%, indicating low acid generation potential. Whole rock and ICP-MS analyses confirmed the absence of deleterious elements. CN levels in barren pulp were reduced below 1 mg/L through detoxification.

Leachate quality characterisation was supported by cyanide leach tests on gravity tailings, which confirmed low metal mobility (of critical elements).

Initial static tests confirmed low ARD potential. All saprolite tailings samples are barren of both acid generating and acid consuming material, testing as either non-acid-generating or uncertain. The fresh rock tailings sample from the Eagle Mountain area tests on the border between non-acid-generating and potentially acid consuming, indicating that material with neutralisation potential is present in the tailings.

The project will need settling/mixing ponds that allow for the controlled mixing and storage of TSF overflow and natural waters before discharge. Although the water balance does not predict significant overflow from the TSF, a settling pond will be needed to store any excess water and settle out sediment before discharge to the receiving rivers.

2.6.4 SEDIMENTATION POND

Water from the mine operations including pit dewatering system discharge will be sent to a large sedimentation pond where the pond design will permit adequate retention time to allow for the reduction of suspended solids and ensuring that all quality specifications are met before the water is permitted to be releasing beyond the property limits.

The area was chosen because its natural topography allows minimal construction effort to build the desired containment structure which will facilitate the required sedimentation function.

Some smaller additional sedimentation ponds will be constructed to manage contact water from pits at elevations below the primary sedimentation pond at the area.

2.6.5 ORE STOCKPILE

In both project phases, ore stockpiles will be managed by grade category - low, medium, and high - for saprolite and fresh rock. This facilitates blending and mill feed optimisation.

The life of mine plan includes approximately 3.5 Mt of lower-grade material to be stockpiled and reclaimed for processing. Stockpiles will be strategically located near the pits and processing plant to ensure efficient haulage and accessibility throughout the mine life.

2.6.6 GEOCHEMICAL ANALYSIS

Mining developments must address Acid Rock Drainage (ARD) and Metal Leaching (ML) risks, which can degrade water quality due to geochemical reactions. ARD typically arises from sulphide-rich mine waste, where pyrite oxidation generates acidity, often neutralised by minerals like calcite. ML occurs when metals are released into water from mineral exposure during mining.

Two geochemical testing programs conducted in July 2024 and January 2025 involved 50 waste rock samples. Results indicate minimal ARD risk, with only one sample showing potential acid generation. The majority of samples are non-acid-generating or potentially acid-consuming, with total sulphur averaging 0.251%. Leachate pH levels mostly range from 5.5-7.5, indicating low sulphide presence.

Metal concentrations in the waste rock are minimally elevated, with some exceedances of U.S. EPA guidelines in three samples, although average leachate remains below reference values. Static testing shows low risk for metal leaching and ARD, and the ongoing kinetic testing confirm this with pH neutral water, and with no significant metal leaching. Tailings analysis suggests saprolite tailings solids are likely inert, while those from Eagle Mountain are non-acid generating or potentially acid consuming. However, some metals in tailings filtrate exceed U.S. EPA values, with sulphate levels between 2000-4000 mg/L.

2.6.7 MINE SUPPORTING INFRASTRUCTURE

2.6.7.1 POWER SUPPLY AND ELECTRICAL DISTRIBUTION

Site power will be obtained from electricity generated by diesel generators located onsite in the processing area. Power demand for the Project is estimated to be approximately 2-3 MW for Phase I and >4 MW for Phase II. The power generated by the diesel generators will be distributed within the processing plant and to any remote locations via appropriately specified transmission lines. In selected cases, a remote generator may be installed to operate critical infrastructure.

2.6.7.2 EQUIPMENT MAINTENANCE FACILITIES

Maintenance facilities will be constructed on site and will include:

- A garage or shade structure for preventative maintenance and overhaul/rebuild tasks;
- Electrical shop;
- Tire change; and
- Wash bay.

Maintenance infrastructure will be provided by the contractor and will largely be constructed from shipping containers (Figure 2.3).

FIGURE 2.3 CONCEPT FOR MOBILE EQUIPMENT MAINTENANCE FACILITY

Source: Preliminary Economic Assessment for the Eagle Mountain Gold Project, Guyana (ERM, 2024)

2.6.7.3 WAREHOUSE STORAGE FACILITIES

A central warehouse will be located on site at the processing area to house all parts needed to maintain mechanical availability of the mining and processing equipment.

Parts supplied by manufacturers on a concession basis will be sought out to reduce capital dollars in parts from the beginning of the Project.

2.6.7.4 EXPLOSIVES

Explosives and cap magazines will be stored appropriately on site at a location to be determined and in compliance with all applicable legislation and safety regulations.

2.6.7.5 FUEL SUPPLY AND STORAGE

A fuel farm will be constructed on site to store diesel and gasoline, adequate to meet the requirements for a week or longer of operations. The quantity of diesel fuel to be stored at the fuel farms is estimated to be approximately 225,000 L, which includes 150,000 L for power generation and 75,000 L for mining equipment. The quantity of gasoline to be stored at the fuel farms is estimated to be 10,000 L, mainly for light vehicles.

2.6.7.6 COMMUNICATIONS

There are currently adequate telecommunications on site. This will be upgraded to provide high-speed Wi-Fi and mobile phone communications for security and work productivity reasons. On-site communications services will include video, internet, Voice over Internet Protocol (VOIP) telephone and private radio systems as well as a telecom repeater to facilitate mobile telephone communication across the site.

2.6.7.7 PORT FACILITIES

Port facilities at Georgetown will be the nearest port for receiving most consumables, equipment and parts form outside of Guyana. Travel time from the port at Georgetown to the mine site can be accomplished in a single day. Times can vary based on the size and weight of the load.

Port facilities at Georgetown are extensive and capable of receiving all heavy equipment and plant components. Loading and offloading cranes and other support equipment is abundant.

2.6.7.8 FIRE DETECTION AND FIRE PROTECTION

Fire detectors will be installed in all office, warehouse, and maintenance buildings, in addition to being placed selected areas in the processing area where fires might be initiated.

A fire water system will be installed with an independent water source that will be separate from other water supplies to be ready in case of a fire at any time.

2.6.7.9 SECURITY AND FIRST AID

A security gate and small office will be constructed at the entrance to the Project site.

Medical facilities on site will include standard nursing facilities and an ambulance able to transport an injured person to Mahdia 8 kilometres away where there is a hospital. A new helicopter pad will be constructed and registered for the mining operation for medical evacuation.

2.6.7.10 ACCOMMODATION CAMP

Accommodation facilities for workers will be provided within the EMPL.

The Project will include accommodations for up to 270 Project personnel, providing essential amenities such as a dining hall, sleeping areas, showers, toilets, limited fitness and recreation areas and security. Daily transport will be provided for those workers based in the communities

of Mahdia and Campbelltown. Additional accommodation in Mahdia may be considered if required.

2.6.7.11 AIRSTRIP

There is a working airstrip in Mahdia with commercial flights currently arriving from Georgetown and other parts of Guyana four days a week. This airstrip will be utilised for the Project. There is likely to be approximately 3 to 6 flights per week with an average of 3 to 4 in the dry season and 4 to 5 in the rainy season(s) with the latter accounting for challenges with road transport.

2.6.7.12 WASTE MANAGEMENT

The mine operations are expected to generate the following waste streams during construction:

- Construction waste:
  - Pallets and other wood packaging materials
  - Shipping packaging
  - Discarded dry, non-hazardous materials
  - Scrap metal
  - Scrap lumber
- Discarded office supplies
- Discarded food containers
- Putrescible food waste
- Other “household” waste
- Out-of-service vehicles
- Medical waste (limited)
- Solid waste: domestic solid waste or similar industrial waste (non-hazardous and hazardous), including tires, broken and used parts, unused raw concrete, reagent bags, scrap steel
- Liquid waste: used solvents, used oil, sewage sludge and supernatant water, and wastewater from maintenance shops (non-hazardous and hazardous)

Waste management will follow a hierarchy with the emphasis placed on reuse and recycling. A Waste Management Plan will be prepared to identify materials for reuse and recycling. Currently, materials identified for reuse include tires (recapping), steel (excluding materials that have come into contact with cyanide), and wood—if useful to local communities. Materials currently identified for recycling include waste lubricants and filters, broken parts, used air filters, out-of-service vehicles, typical household recyclables, batteries, and scrap metals (excluding materials that have come into contact with cyanide).

Non-Hazardous Waste

Non-hazardous waste generated by the Project during construction is anticipated to be primarily associated with packing and surplus construction materials. The primary material types expected are wood (pallets), scrap steel, and cardboard. Smaller volumes of other non-hazardous waste, such as paper and organic food waste, will also be generated. Waste will be

segregated, where possible, to facilitate recycling. A reputable, licensed contractor will be contracted to handle the final disposal of recyclable and saleable waste.

A non-hazardous waste storage area will be constructed from low-permeability materials. Waste processing and storage areas will be constructed with curbs to prevent run-off to permeable areas. Run-off and leachate will be collected and treated as needed prior to discharge to the environment. Materials that are currently being recycled at the Project as part of exploration include scrap steel and other metals (aluminium, copper), plastic bottles, and specific shipping containers that can be returned to the respective suppliers. These practices will continue into the pre-production and operations phases to minimise the volume of non-hazardous wastes that need to be managed.

For non-hazardous materials that cannot be recycled or returned to the suppliers, one or more non-hazardous landfills will be developed within the Project area to manage the waste. The landfill(s) will be created within the WSF areas and will be constructed and operated to be consistent with best practice. This includes consideration of aspects such as landfill siting, engineering to minimise infiltration and facilitate leachate collection if needed, tracking of waste streams, and monitoring of run-off and leachate generation.

Hazardous Waste

Hazardous waste will not be disposed of in the on-site landfill(s). Hazardous waste generated by the Project will be temporarily stored on site pending off-site shipment for treatment and/or disposal at an approved facility by a licensed contractor.

Designated facilities used for the collection and temporary on-site storage of hazardous waste will include fencing, signage, roofing, and secondary containment.

Existing management protocols will be maintained for hazardous waste, including:

- Medical waste
- Used batteries
- Used or residual oil
- Used oil filters
- Hydrocarbon-impregnated materials
- Light bulbs, fluorescent tubes, and vehicle light lamps
- Printer cartridges

2.6.7.13 ON-SITE LABORATORY/ TESTING FACILITY

On-site laboratory for routine measurement of gold, silver, and many other elements and also, total, free, and wad cyanides, dissolved metals, and reagent concentrations for process control. Methods include Fire Assay, Atomic Absorption, and Inductively Coupled Plasma (ICP) as well as various wet chemistry methods.

2.6.7.14 FRESH WATER SUPPLY

The primary water supply for Mahdia town is untreated surface water from a creek called Waterline, located in the north area of the EMPL. The town also sources water from groundwater wells within the town limits.

The Project will not use water from Waterline Creek or the Waterline drainage basin. Mine operations and project infrastructure, such as the open pits, Tailings Storage Facilities, Waste Dumps, and the Processing Plant, are to be located away from the Waterline drainage basin to avoid impacts to water availability and water quality in the creek. The Project will be using recycled process/reclaim water from the TSF for mine operations and fresh water from groundwater wells and creeks within the EMPL.

A study on Project water demands has been completed and a study of the availability of local water has been conducted. This is discussed in the Water Baseline in Volume 2: Chapter 7 and 8.

Future wells and any recycled or reused water will be treated in on-site facilities as required.

2.6.8 MINE SITE WATER MANAGEMENT

Sedimentation ponds will be constructed to contain all open pit mining contact water and runoff from the co-disposal sites.

Surface water management systems will be designed to minimise contact water and keep surface runoff from entering the pit and other mine-disturbed areas to the highest practical degree, with ditches and culverts designed to meet the prevailing maximum storm requirements of local and regional/provincial regulations and legislation.

Storm water storage ponds will be constructed where required and stormwater management strategy will be implemented to ensure contact water released to nature will meet all applicable quality standards before release.

Supply of fresh water from aquifers and natural springs in the hillside is readily available.

2.6.8.1 SITE DRAINAGE AND SEDIMENT CONTROL

The drainage system will minimise contact water and prevent surface runoff from entering disturbed areas. Ditches and culverts will be designed to meet local stormwater standards and will include energy dissipation means, where needed. Contact and non-contact water will be managed separately. Sedimentation ponds will be constructed to capture runoff and pit dewatering discharge, allowing solids to settle before compliant discharge. Gravity flow will be used where possible, with pumps and perimeter wells supporting deeper pits. Regular maintenance will ensure system effectiveness throughout operations.

2.6.8.2 PIT DEWATERING

Due to the position of many of the pits on a hillside, dewatering can be achieved using gravity and some strategically placed drill holes.

In the pits located at the valley floor, pit dewatering will be facilitated by a combination of in-pit pumps and perimeter pit-less well pumps (if appropriate). Some of the deeper pits on the hillside that cannot be dewatered using drill holes and gravity will require similar dewatering equipment. A typical pit dewatering pump and pipe set up schematic is illustrated in Figure 2.4.

FIGURE 2.4 TYPICAL PIT DEWATERING PUMP AND PIPE SET-UP SCHEMATIC

Source: https://menafn.com/1105154371/Dewatering-Pumps-Market-Expected-To-Reach-101334-Million-By-2026- Growing-At-A-CAGR-Of-59-From-2019-To-2026

2.6.8.3 WATER TREATMENT PLANT

Currently, water at Eagle Mountain is drawn from natural creeks which are sourced by natural springs. Potable and fresh water for the mine site will be drawn from drilled wells, and creeks, as required.

Future wells and any recycled or reused water will be treated in on-site facilities as required.

2.6.8.4 WASTE ROCK STORAGE FACILITY AREA RUN-OFF AND SEEPAGE

Geochemical testing has shown that runoff and seepage from mine facilities will meet all water quality criteria apart from total suspended solids (sediment). All mine contact water will be routed to sedimentation ponds where it will be treated with a flocculant and managed until it reaches the necessary TSS discharge standards. Some areas may require additional water management, such as runoff from truck shops, which may have oil and grease contamination. These water sources will be captured and consumed by operations.

2.6.8.5 TSF SEEPAGE AND EFFLUENT

Tailings Disposal Method

A smaller secondary facility may be required to store tailings later in the project's life (as discussed in the alternatives chapter, this would be subject to a separate environmental and social assessment if required.. The design includes progressive lifts and geomorphic shaping for environmental integration and stability.

Containment Ponds

Excess water from containment ponds will be pumped or gravity-fed to the TSF. TSF water will report to a sedimentation pond before discharging to the environment.

2.6.9 TRANSPORTATION

From Georgetown port to site, all heavy equipment, parts, plants, and consumables are deliverable by road and include one commercial river ferry crossing and can take from 8-12 hours depending on conditions and ferry times/operation.

The road is paved from Georgetown to Linden (109 km), followed by a wide laterite road to Mabura (122 km), which is currently being upgraded to asphalt/concrete. From Mabura to Mahdia, an all-weather unpaved road provides access, though travel can be challenging during the rainy season.

2.6.9.1 MAIN ACCESS ROAD

The 8 kilometres long laterite surfaced access road from Mahdia to the mine site will be upgraded to accommodate heavy equipment and container/reagent truck traffic, which will mainly involve widening the road and improving the bridges (refer to Section 2.6.9.5).

The access road was previously upgraded in 2015 to support 40-ft container trucks during pilot plant construction. The existing road is on favourable terrain. It will require a modest capital investment to achieve the width and bearing capacity required to accommodate haul truck traffic and the delivery of supplies and large equipment to site.

2.6.9.2 POTENTIAL OVERPASS

The WSFs are located on the west side of the public road, as such, there will be mine truck traffic moving waste rock across the main access road. To mitigate traffic delays and improve road safety, the Project is proposing the construction of an overpass for public vehicles. There will be guard rails to prevent any public vehicles from damage or rollover if there should be any occurrence or deviation off the roadway. All design of the public road realignment and the underpass/overpass will be made with consultation with the proper Guyana national and regional road/highway agencies.

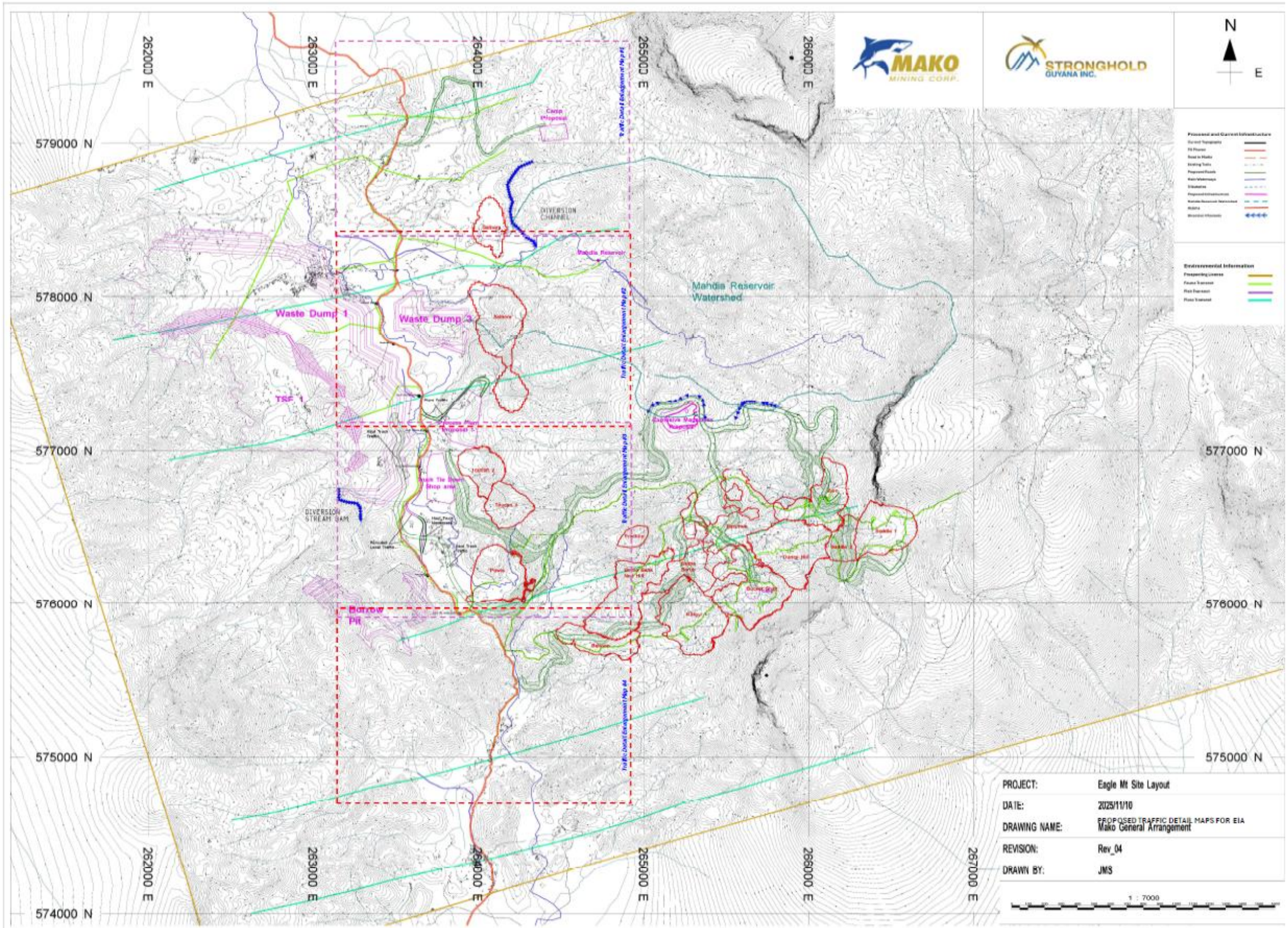
This road crossing (underpass/overpass) will also be used when the Borrow Pit Area is used to create rock material to be used throughout the construction of the facility and infrastructure, as well as the waste rock movement and tailings transport, there will be no impact on the public right of way after this underpass/overpass is constructed.

The selection of the public road to pass ‘over’ the haulage and pipeline road was made to ensure that the public road is not impacted at this crossing by heavy rains known to occur seasonally in the area and public travel will be on the higher and well-draining road, rather than through the underpass, where accumulation or buildup could occur. Rainfall will be diverted due to the slight increase in elevation at the crossing, for the public road. Approaches from North or South and on each side of the road will include diversions and water control to reduce potential washout of either travel way.

The public roadway will only be changed over the course of a few hundred meters to direct the roadway into a perpendicular crossing of the haulage way. This reduces the size and cost of the

underpass/overpass. The location of the overpass and traffic flow information is provided in Figure 2.5.

FIGURE 2.5 OVERPASS AND TRAFFIC FLOW INFORMATION



2.6.9.3 SITE ACCESS ROAD

Site access roads will be built from the main access road to the open pit mining operations. Other haulage and site service roads will also be constructed from the open pit to the co-disposal sites and surface facilities.

Mine haul roads outside of the in-pit roads will be constructed as needed to connect mined pits with waste dumps and the processing plant.

2.6.9.4 HAUL ROADS

Due to the steep terrain and the presence of ridges and valleys perpendicular to the primary hill side upon which most of the deposits reside, the design of roads for pioneering work and initial production will be important.

The current road system that traverses the mine site is extensive but currently too steep in some areas for light vehicles other than all-terrain vehicles (ATVs).

Cutting and filling of roads up the hillside at no more than 10% but targeting the recommended grade of 8% may require significant cutting and filling of material if optimisation of the routes is not possible.

A preliminary conceptual study of road locations suggests placing roads to the north of the pits, winding their way with switchbacks from the valley floor up to the Zion area of the Eagle Mountain deposit.

Articulated dump trucks (ADTs), such as the Caterpillar 740 (36-tonne capacity), are planned for haulage due to the hilly saprolitic terrain. These trucks were previously used on site during the pilot plant operation. Ancillary equipment such as bulldozers, graders, and water trucks will be used to maintain haul roads, ramps, and waste dumps.

2.6.9.5 TRANSPORT FROM GEORGETOWN

The truck transport company will be selected through a competitive bidding process and must comply with all required safety standards, including:

- Proven capacity to operate in Guyana’s interior
- Full PPE for drivers
- Trucks equipped with appropriate hazardous materials signage and illumination

Most shipments would travel in convoys. Vehicles will have GPS tracking, and at least one vehicle per convoy will be equipped with Starlink connectivity to ensure communications in the event of an emergency response incident.

The route from Georgetown to the Eagle Mountain mine site typically requires 6–8 hours of travel time. There are two urban areas where special care is required when transporting hazardous materials: Georgetown and Linden.

Several infrastructure points along the route currently warrant attention but are actively being repaired or upgraded by the Government of Guyana. These include:

- The Linden–Mabura Hill road
- The Demerara River bridge at Linden

Both are at an advanced stage of construction and are expected to be completed within approximately six months.

The stretch from Mabura Hill to Mahdia includes thirteen bridges, seven of which are in the EMPL mine development area. These bridges are constructed of local hardwood and range from 25 to 40 feet in length. The company, with government assistance, has plans to replace the larger bridges with concrete and steel structures.

Another key area under evaluation is the Mango Landing crossing over the Essequibo River, which is approximately 300 metres wide. This crossing will require a larger barge to support sustained project traffic, a matter that has already been discussed with the barge owners. This route represents the only access to the Mahdia region.

Immediately after the river crossing is an area known as Tiger Hill, which is susceptible to landslides and road erosion. Repairs and stabilisation works are currently being undertaken by the state.

Upon arrival in Mahdia, project traffic can bypass the town and proceed directly to the Project site. From Mahdia to the current entrance gate, there are nine bridges, all of which are undergoing geotechnical studies to determine final bridge design and eventual construction.

There is also the potential that riverine transport may be used in some stretches along this route such as between Georgetown and Linden.

The estimated daily and monthly vehicle movements are summarised in Table 2.10. Monthly values are assuming 31 days, and daily values assume 21 days/month. Note some data are not based on calculated values, where the data was unavailable, but reflect best effort estimates for this data.

TABLE 2.10 DAILY AND MONTHLY VEHICLE USE FROM GEORGETOWN TO SITE

Name	Truck Count	Period 1	Truck Count	Period 2	TOTALS
NaCN	17	Truck/month	0.810	Truck/day	
Lime	25	Truck/month	1.200	Truck/day	
HCl	0.25	Truck/month	0.010	Truck/day	
NaOH	0.50	Truck/month	0.020	Truck/day	
SMBS	3	Truck/month	0.140	Truck/day	
$CuSO_4$	0.375	Truck/month	0.018	Truck/day	
$Fe_2(SO_4)_3$	12	Truck/month	0.570	Truck/day	
Antiscalant	0.50	Truck/month	0.020	Truck/day	
Flocculant	1	Truck/month	0.048	Truck/day	
Activated Carbon	0.125	Truck/month	0.006	Truck/day	
Diesel/HFPO	34	Truck/month	1.620	Truck/day	
Gasoline	1.5	Truck/month	0.071	Truck/day	
Propane	16	Truck/month	0.762	Truck/day	
Explosives	4	Truck/month	0.180	Truck/day	
TOTALS	**115.25**	**Truck/month**	**5.349**	**Truck/day**	**6 trucks / day**

2.6.9.6 PRODUCT AND EQUIPMENT TRANSPORT

Gold doré bars produced at the processing plant will be transported by air either from the Mahdia airstrip or from the project site to Georgetown. From there, it is expected that the doré will be exported to foreign refineries pursuant to standard terms and conditions of Mineral Agreements with the Government of Guyana. This transport method is consistent with standard industry practices for gold export and sales in the region.

The Mahdia airstrip, located 7.5 km north of the project, is hard-surfaced and suitable for small commercial and charter aircraft.

A fleet of approximately 15 trucks will be required during Phase I of the operation then increasing to 22 in Year 4 with an average of 25 trucks over the life of the mine. This is assumed to consist of 5 trucks per day during operation and 9 trucks per day for construction period.

2.6.10 WORKFORCE

Current exploration activities are supported by a 65-person capacity exploration camp on the Eagle Mountain Gold Project. Supplies are partly sourced from Georgetown and partly from Mahdia. The camp has limited Digicel cell-phone coverage while an established satellite link at camp provides internet access.

The local economy of the Mahdia/Campbelltown area is dominated by small-scale mining activity and a labour force familiar with mining and heavy equipment is available to draw upon for any future mining activities. Skilled workers and specialists will need to be sourced from outside the region. Elsewhere in Guyana, several large gold mining operations are currently active, and suitable personnel should be available within Guyana.

According to the work schedule, each primary production mining equipment in use will need four (4) operators.

For construction, a workforce of 320-350 people is required. For the first year of production, a workforce of 200 hourly labourers is estimated. This number will increase over the LOM as the stripping ratio increases. A maximum of 287 hourly labourers is estimated for the final year of the LOM.

The hourly workforce will be predominated by primary production equipment operators, mining support equipment operators, site support, and maintenance positions for both the plant and for mobile equipment.

The initial primary production team will include 40 truck drivers and 20 shovel operators, supplemented by operators for support machinery like dozers, graders, and wheel loaders.

Company staff is estimated to consist of 86 persons throughout the LOM.

The labour and staff required to run the mill (operations) is estimated at 52 persons (31 labour and 21 supervision).

Given the region’s heavy rainfall, the proposal to increase staff in particular sectors such as Environmental and Road Maintenance has been considered.

3. PROJECT ALTERNATIVES

This chapter presents the alternatives considered during the engineering design process, in accordance with Section 11 of the Environmental Protection Act Cap.20:05. During the Scoping Study, the design engineers and the EIA team liaised to ensure environmental and social constraints were considered in the initial project design.

The chapter outlines how the chosen design is technically and economically feasible whilst simultaneously minimising the environmental and social impacts.

3.1 NO PROJECT ALTERNATIVE

The "No Project" alternative would result in the foregoing of economic benefits to Guyana derived from the revenues of the gold production and the creation of direct and indirect employment by the Project. This alternative would also lead to the necessity of further exploration in other concessions and would not leverage the findings of the exploration and prospecting carried out in the Eagle Mountain Property to date, resulting in greater environmental impacts in areas presently not subject to such activities.

3.2 MINING AND BENEFICIATION PROCESSES

The resources to be mined consist of both weathered rock (saprolite) and underlying unweathered rock (hard rock). Mining and processing of the saprolite and hard rock will employ standard open pit mining methods and modern processing equipment for extraction of gold.

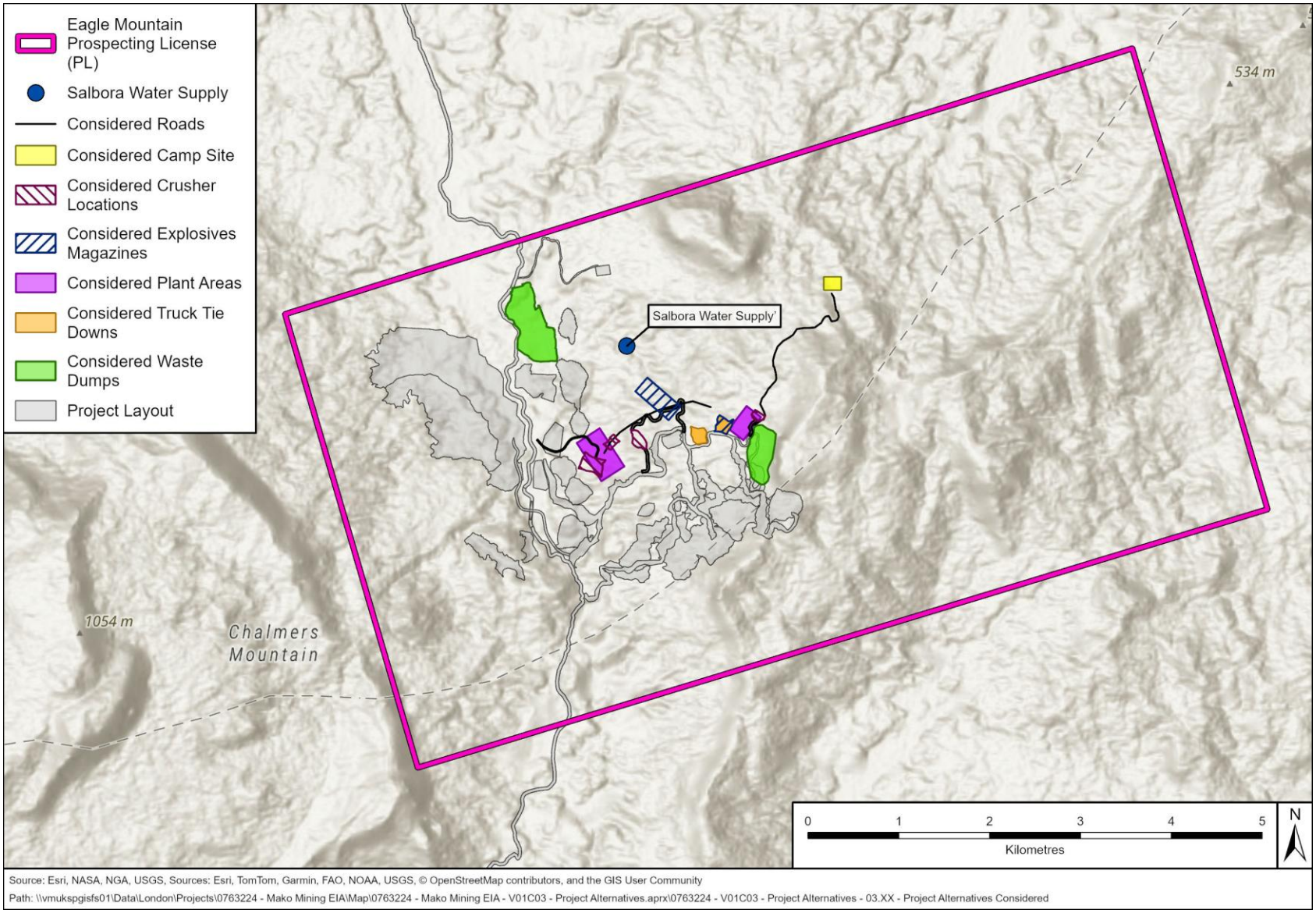
The International Cyanide Management Code for the Manufacture, Transport and Use of Cyanide in the Production of Gold (the Cyanide Code) will be applied to cyanide management and destruction processes. The cyanidation alternative adopted is expected to enable average processing recoveries of approximately 90% for gold.

3.3 LOCATION ALTERNATIVES

There is no alternative location considered for mining activities due to the absence of other significant areas with economic gold mineralisation within the Eagle Mountain Property. The siting of the tailings dam, the water management area, the mine waste disposal area, and other facilities have been guided by topography, geotechnical viability, and the principles of minimising the affected area and concentrating the impacts to a single zone within the concession, as well as the IFC Environment, Health, and Safety Guidelines for Mining (2007).

However, within the EMPL, there has been some micro-siting / re-routing conducted on the locations of the proposed facilities. These are discussed in the following sections and shown in Figure 3.1.

FIGURE 3.1 PROJECT ALTERNATIVES CONSIDERED



3.3.1 ACCOMMODATION CAMP

The current camp is located to the south of the EMPL. Two options were considered for the location of the camp (Figure 3.1):

- Option 1: A location within the north-east of the EMPL at an elevation of 365m. This option would include the construction of an access road of approximately 2.14 km.
- Option 2: A location within the north of the EMPL at an elevation of 140m. this option would include the construction of an access road of approximately 1.68 km.

Through design optimisation, it was noted that Option 1 is logistically challenging to access and requires the construction of a longer access road that would have increased impacts from habitat clearance as well as increased impacts to air quality from dust generation and vehicle emissions. Therefore, Option 2 was selected.

3.3.2 WASTE STORAGE FACILITIES

In total, six potential Waste Storage Facilities (WSF) locations were considered for the Project (Figure 3.1):

- WSF 1 and 3: Two WSF locations were identified in the west of the EMPL located either side of the old Potaro-Konawaruk public road. These facilities are downslope and proximal to the planned open pits and therefore waste haulage will have reduced vehicle emissions through transportation of materials.
- WSF (North): One location was identified to the north of WSF 1 and 3. This site is located close to the planned haul roads and open pits. However, it is not viable to accommodate all project waste rock by itself.
- WSFs (East): Three WSFs locations were identified to the east of the public road in the area of the Eagle Mountain pits and proposed explosive storage area. The eastern most extents of these WSFs encroach on the watershed for the Mahdia reservoir, which provides water to Mahdia Town. As such, Stronghold Guyana have optimised the design to avoid constructing facilities close to this reservoir and its watershed to avoid impacts to water resources.

WSF 1 and 3 have been selected to be utilised for the Project due to the reduced transportation emissions and proximity to the pits as well as their location outside the watershed for the Mahdia reservoir.

3.3.3 TAILINGS STORAGE FACILITIES

The Tailings Storage Facility (TSF) is shown Figure 3.1 and was selected for two key reasons: (1) it is outside the watershed area of the Mahdia reservoir; and (2) the area features an expansive topographic low with steep embankments, thereby providing advantages for the storage of tailings. There is the potential that another TSF may be required over the life of the Project.

The location of this TSF is still being determined based on topographic logistical, environmental, social and health criteria. This facility will be subject to a separate environmental and social assessment in line with Guyana EIA requirements.

3.3.4 ENERGY SUPPLY

It is anticipated that site power will be obtained from electricity generated by diesel generators supplied by either company-owned generators or by contracted power

Locally, there is no commercial electric power available for the power requirements of the project. An abandoned hydroelectric power station is located at Tumatumari, approximately 21 kilometres northeast of the Eagle Mountain Gold Project area. This was constructed in 1957 by British Goldfields Limited and operated until 1959 when mining operations ceased. The Government of Guyana recommissioned the station in 1969 to serve local communities. This development included an embankment dam, a concrete overflow dam, and a two-unit powerhouse with an installed capacity of 1,500 kW.

Several organisations have signed memorandums of understanding within the last 10 years to investigate the viability of refurbishing Tumatumari, but all are now believed to have expired. The Amaila Falls area located approximately 50 kilometres west-northwest of the EMPL is being assessed for potential large-scale (165 MW) hydroelectric power generation. However, this is unlikely to be finalised in time for the Project and also may not be constructed or viable and is therefore not considered.

3.4 DESCRIPTION OF SELECTED ALTERNATIVES

The selected alternatives are shown in Table 3.1 with a comparison of the different environmental and social aspects of the alternatives.

TABLE 3.1 ALTERNATIVES OVERVIEW

Facility	Selected Alternative	Rationale
Waste Storage Facility	WSF 1 and 3	Located within a few kilometres of the road and therefore will have reduced vehicle emissions through transportation of materials. In addition, these WSFs are located the farthest from the Mahdia reservoir and therefore, will avoid any impacts on water resources in the EMPL and Mahdia Town.
Accommodation Camp	Option 2 in the north of the EMPL	Requires a shorter access road construction reducing impacts from air emissions and habitat clearance.
Tailings Storage Facility	TSF	The TSF was selected to be close to the WSF and processing facilities. For future operations, a further TSF may be required and, if needed, will be subject to a separate environmental and social assessment in line with Guyana EIA requirements.
Energy Supply	Generators on site	There is no commercial electric power available locally and no planned facilities. The Amaila Falls potential hydroelectric power generation Project is unlikely to be finalised in time for the Project and also may not be constructed or viable and is therefore not considered as a suitable alternative.

4. ADMINISTRATIVE (LEGISLATIVE AND REGULATORY) FRAMEWORK

This chapter describes national and international environmental, health, and safety (EHS) policies, regulations, and legal frameworks applicable to the Project. This includes an overview of the Guyanese administrative framework, applicable environmental and social policies, regulations, and quality standards, and the good international industry practice.

4.1 NATIONAL LEGAL FRAMEWORK

This section provides an overview of the key legislation currently in force in Guyana that is relevant to the EIA of the Project.

4.1.1 NATIONAL CONSTITUTION OF GUYANA

Guyana is governed according to the Constitution of the Co-operative Republic of Guyana, as amended ("the Constitution"). The Constitution took effect in 1980 and expressly provides for the protection of the environment. Article 25 establishes "improvement of the environment" as a general duty of the citizenry.

In addition, Article 36 reads as follows:

> *"In the interests of the present and future generations, the State will protect and make rational use of its land, mineral and water resources, as well as its fauna and flora, and will take all appropriate measures to conserve and improve the environment."*

4.1.2 THE ENVIRONMENTAL PROTECTION ACT

In 1996, the Environmental Protection Act (EP Act) was enacted to implement the environmental provisions of the Constitution. The EP Act is Guyana's most significant piece of environmental legislation. It articulates national policy on important environmental topics such as pollution control and the requirements for the environmental review of projects that could potentially affect the environment. It also provides for the establishment of an environmental trust fund. Most importantly, the EP Act authorised the formation of the Environmental Protection Agency (EPA) and established the EPA as the lead agency on environmental matters in Guyana, including the issuance of environmental authorisations with appropriate conditions. The EP Act mandates the EPA to oversee the effective management, conservation, protection, and improvement of the environment (EPA 2021). It also requires the EPA to take the necessary measures to prevent and control pollution, assess the impact of economic development on the environment, and use natural resources sustainably.

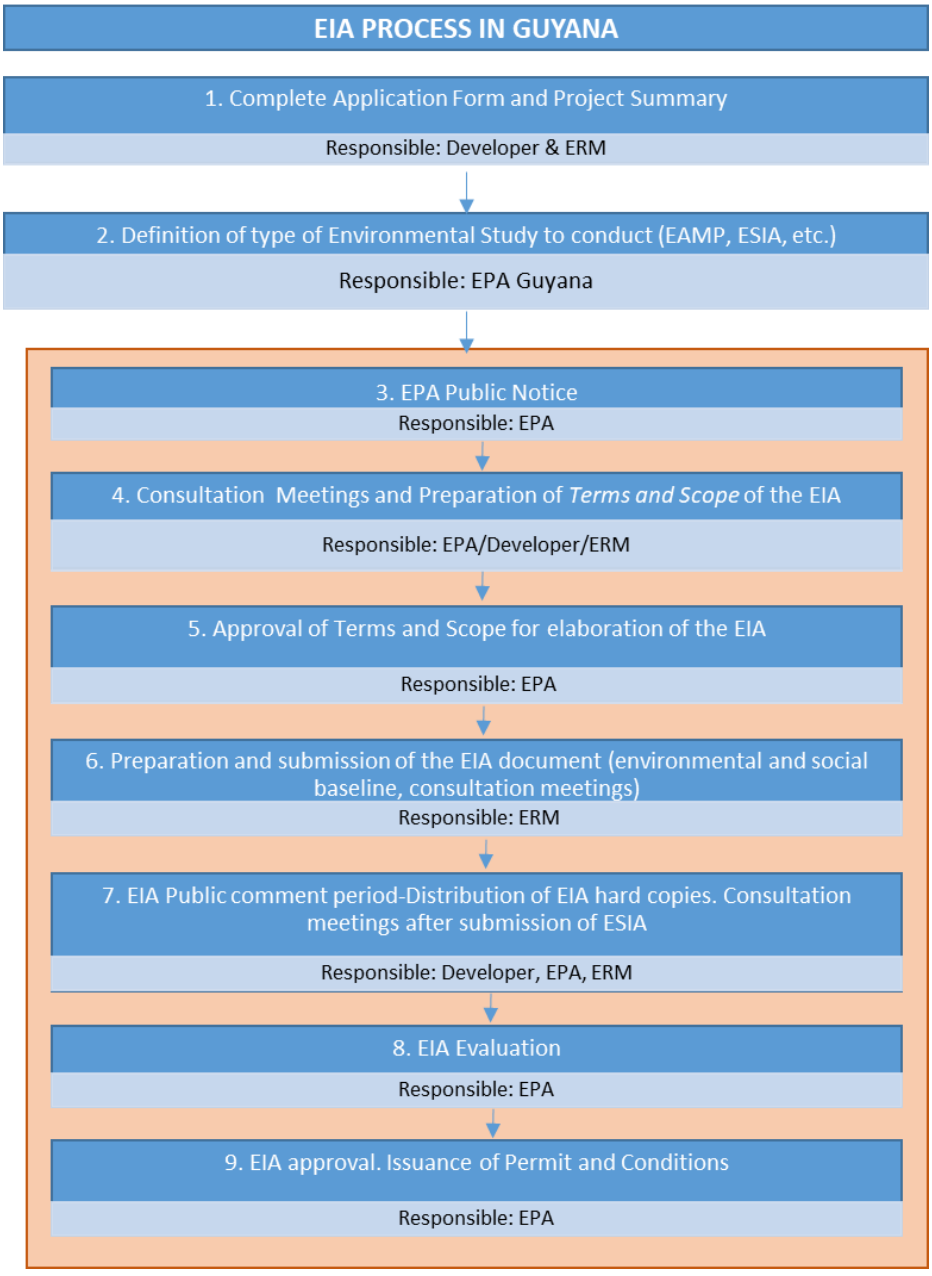
This Act was amended in 2001 and includes a section on record keeping and monitoring requirements. Under this section, the Environmental Protection Agency requires the following of any person who releases or engages in the handling of hazardous substances or contaminants:

- Sample and analyse such contaminant or hazardous substance, or material contaminated by same for specific constituents or characteristics.

- Install, use and maintain such monitoring equipment, and implement such environmental audit procedures as may be specified in any environmental authorisation issued according to the Act.
- Establish and maintain records regarding such sampling, monitoring, and environmental auditing activities.
- Establish and maintain records regarding pollution control equipment on the premises (including records on control equipment parameters, production variables and other indirect data when direct monitoring is not required).
- Submit reports including compliance reports.
- Provide such other information as the authority may require.

The EIA process for Guyana is summarised in Figure 4.1. The figure also identifies those responsible at each stage of the Project's EIA.

FIGURE 4.1 EIA PROCESS IN GUYANA AND PROJECT RESPONSIBILITIES



Regulations on hazardous waste management, water quality, air quality, and noise management were established in 2000 in accordance with the EP Act. These pollution management regulations were developed to regulate the activities of development projects during Construction and Operations stages. The following are regulations applicable to the Project under the EP Act:

- The Environmental Protection Water Quality Regulations
- The Environmental Protection Air Quality Regulations
- The Environmental Protection Noise Management Regulations
- The Environmental Protection Hazardous Wastes Management Regulations
- The Environmental Protection Authorisations Regulations

4.1.2.1 EPA WATER QUALITY REGULATIONS 2013

According to these regulations[1], any entity with a facility discharging effluent must register and apply for environmental authorisation. These regulations cover effluent discharge limits; new sources of effluent discharges; fees for registration and environmental authorisation; and sampling points, records, and reports. The regulations also include general provisions for: the registration of water effluent; biological integrity; spills or accidental discharges; and standard methods of analysis. Guidelines on effluent discharges and sludge disposal are detailed in the regulations. The Guyana National Bureau of Standards (GNBS) has established Interim Effluent Discharge Standards that the EPA has adopted.

In addition to the mandates for effluent discharge to the environment, the EPA has established guidelines for water quality associated with mining. Since this is a mining project these standards would be considered applicable to all project phases. These guidelines mandate that both surface and groundwater associated with mining operations be analysed for pH, TDS, TSS, turbidity, conductivity, organic compounds (phenol and oil and grease), major anions (Ca, Mg, Na, K), nutrients (TKN, total ammonia, phosphate, nitrate and nitrite), and trace metals (Al, As, Cd, Co, Cr, Cu, Fe, Hg, Mn, Mo, Ni, Pb, Se, Sb, Zn). The EPA further requires that concentration levels of these substances do not exceed levels of environmental concern (normally set as levels to protect aquatic species) or measured baseline results. The EPA also reserves the right to request analyses to determine bacteriological levels (coliforms, fecal coliforms and standard plate counts), rare earth elements, radioactive elements, and other trace metals.

4.1.2.2 EPA AIR QUALITY REGULATIONS 2013

According to these regulations[2], persons with facilities that emit air pollution from any process into the atmosphere are required to register and apply for environmental authorisation. The regulations include elements related to regulated air contaminants and emission sampling, fees associated with registration, requirements for new and altered sources of air emissions, requirements and approval of plans, and emission controls. It is necessary under these

[1] Environmental Protection Agency. 2013. Environmental Protection (Water Quality) Regulations 2013 AG.1EPA_Water_Quality_Regs. Accessed: 19 September 2024. Retrieved from: https://epaguyana.org/download/ag-1epa_water_quality_regs/

[2] Environmental Protection Agency. 2013. Environmental Protection (Air Quality) Regulations 2013 AG.1_EPA_AIR_Pollution_Regs. Accessed: 19 September 2024. Retrieved from: https://epaguyana.org/download/ag-1_epa_air_pollution_regs/

regulations to register with the EPA and submit an application for environmental authorisation at least 90 days prior to the commencement of releasing emissions. The regulations include a list of the parameters but do not specify parameter limits.

4.1.2.3 EPA NOISE MANAGEMENT REGULATIONS 2013

Under these regulations[3], operations that emit noise are required to apply to the EPA for environmental authorisation. The regulations include the general requirements to apply for authorisation, the permissible noise levels, factors involved in the determination of the point of noise emissions, applications for variance, requirements related to new and altered sources of noise pollution, requirements and approval of plans, and restrictions on construction activities and the power to waive restrictions. The GNBS is responsible for establishing standards for permissible noise levels in industry, construction, and other areas.

4.1.2.4 EPA HAZARDOUS WASTE MANAGEMENT REGULATIONS, AMENDED 2013

Gold will be beneficiated by cyanidation. This will entail the use of cyanide and other hazardous reagents in processing operations. Petroleum products will be used for power generation and equipment operations. The chemical reagents and petroleum products will have to be managed in conformance with the EPA Hazardous Waste Management Regulations, 2000.

These regulations[4] outline the rules and procedures for the transport, documentation, storage, treatment and disposal of hazardous wastes. There are no regulations for the management of hazardous substances. It can be inferred that these regulations will apply to reagents to be used by the Project.

These regulations are intended to ensure, through the environmental authorisation process, that all operations that generate, transport, treat, store and dispose of hazardous wastes are managed to protect human health and the environment. The regulations allow for information on the types of facilities and quantity of hazardous waste generated, treatment standards and efforts to reduce the waste generated. An emergency preparedness plan is required for those who operate hazardous waste facilities. For that regulation, hazardous material/waste is regarded as the following:

- Explosives
- Flammable liquids
- Flammable solids or waste solids other than explosives which may be readily combustible
- Oxidizing substances
- Organic peroxides
- Poisonous substances
- Infectious substances
- Corrosives

[3] Environmental Protection Agency. 2013. Environmental Protection (Noise Management) Regulations 2013 AG._1EPA_Noise_Management_Regs. Accessed: 19 September 2024. Retrieved from: https://epaguyana.org/download/ag-_1epa_noise_management_regs/

[4] Environmental Protection Agency. 2013. Environmental Protection (Hazardous Wastes Management) Regulations 2013 AG.1Hazardous_Wastes_Regulations. Accessed: 19 September 2024. Retrieved from: https://epaguyana.org/download/ag-1hazardous_wastes_regulations/

- Toxic gases
- Toxic substances which, if inhaled or ingested, may cause delayed or chronic effects
- Ecotoxic substances, if released, may present immediate or delayed adverse impacts to the environment by means of bioaccumulation and/or toxic effects on systems
- Materials capable, after disposal, of yielding another material which possesses any of the characteristics specified above.

4.1.2.5 ENVIRONMENTAL PROTECTION (AUTHORISATIONS) REGULATIONS 2000

Before an application for Environmental Authorisation (or for a Permit) is made, an Environmental Impact Assessment report or any other relevant document should be submitted to the EPA for approval. Under this regulation, Stronghold Guyana is required to keep records of all environmental monitoring (not less than three years), sampling procedures, maintenance and calibration procedures and records of any incidents. These records should be made available to the EPA and should be Project-specific and will include the following:

- Steps Stronghold Guyana should follow to avoid, minimise, mitigate and compensate for impacts;
- Records of monitoring information such as date, place and time of measurement, etc.;
- Proper maintenance of facilities and appropriate quality assurance procedures; and
- Establishment of environmental monitoring program.

4.1.2.6 ENVIRONMENTAL IMPACT ASSESSMENT GUIDELINES—MINING (2000)

The Environmental Protection Agency (EPA) in collaboration with the Environmental Assessment Board (EAB) has produced guidelines for conducting Environmental Impact Assessments (EIAs) for Mining Projects in Guyana. The guidelines require that the EIA consists of three components:

- Environmental baseline study—providing a record of the state of the environment before the implementation of the Project;
- Environmental Assessment—which provides an analysis of the baseline study data used to predict and quantify the impact of Project; and
- Environmental Impact Statement—where the impacts are identified, assessed and mitigation measures are considered. This section is required to contain an Environment Management Plan.

4.1.2.7 EPA'S ROLE IN EIAS

The EPA has determined that the Project will likely have significant environmental impacts. The following four functions of the EPA are consequently applicable to the Project, as mandated by the EP Act:

- To take such steps as are necessary for the effective management of the natural environment to ensure the conservation, protection and sustainable use of natural resources;
- To promote the participation of members of the public in the process of integrating environmental concerns in planning for development on a sustainable basis;

- To ensure that any development activity which may cause an adverse effect on the natural environment is assessed before that activity commences and that the adverse effect is taken into account in deciding whether or not the activity should be authorised; and
- To give development consent which entitles the developer to proceed with the Project.

The EPA is required to implement the following environmental management principles as part of this process:

- The "polluter pays principle": the polluter should bear the cost of measures to reduce pollution.
- The "precautionary principle": where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used to postpone measures to prevent environmental degradation.
- The "strict liability" legal principle: any person who contravenes the Act or regulations shall be liable to prescribed penalties.
- The "avoidance" principle: it is preferable to avoid environmental damage, as it can be impossible or more expensive to repair rather than prevent damage.
- The "state of technology" principle: measures protecting the environment are restricted by what is technologically feasible, and as technology improves, the improved technology should be used.
- To prevent and repair environmental damage.

4.1.3 THE GUYANA GEOLOGY AND MINES COMMISSION (GGMC) 1979

The GGMC Act was enacted in 1979 and authorised the government to establish the GGMC, which is one of four agencies within the Ministry of Natural Resources. The GGMC promotes and regulates the exploration and development of the country's mineral and petroleum resources.

The technical functions of the GGMC also encompass regulating, promoting, capacity building, policy formulation relevant to the mining sector and continuous monitoring and review of the mining and petroleum sector. In addition, the GGMC also functions as an environmental regulator (Mining Amendments Regulations of 2005) for example as it relates to mines regulations and watershed management and development of Codes of Practice for Waste Management, Tailings Management, Contingency and Response Plans, Mercury, Mine Reclamation, and Use of Small Dams Water/Tailings Management.

4.1.4 THE MINING (AMENDMENT) REGULATIONS 2005

The GGMC amended its mining regulations in 2005. These amended regulations and the Mining Act 1989 apply to the Project. The GGMC granted Stronghold Guyana Inc. a Prospecting License for the Project. Once the EIA is approved by the EPA and GGMC, a mining license would be issued to recover gold in the Eagle Mountain area. GGMC would be responsible for enforcing the provisions in this regulation.

Environmental provisions applicable to current mining operations are detailed in the Mining (Amendment) Regulations 2005, which contain mandates for the following:

- Use of Poisonous Substances
- Requirements for Environmental Management for Large and Medium-Scale Mining
- Requirements for Environmental Management for Small-Scale Mining

- General Requirements
- Protected Areas
- Pollution Control
- Offences and Penalties

The regulations contain provisions for the sanitary management of human waste and for the burial of animals and any person who expires at the mine. Detailed provisions are outlined for the regulation of mines. These regulations include the prohibition against the hiring of females, and underage boys in addition to the restriction on persons permitted to work underground. The regulations also set out general provisions for underground mines and mandate requirements for the ventilation of shafts and for the use of explosives in mining operations.

Procedures for the use of poisonous substances, including cyanide and mercury, are also outlined in these regulations, with restrictions being placed on the discharge of poisonous effluent to the environment and on the exposure of individuals to mercury fumes.

The royalty payable on gold, silver and precious stones are detailed in the regulations in addition to the rights and expectations of lessees and tributers. The regulations places restrictions on individuals eligible to be employed as labourers in mining districts and mandate that each person, who is not an Amerindian, who works as an employee in a mining district shall be registered. The employer at a mine site is mandated by regulations to keep medicines and medical supplies for the use of mine employees, and in instances where the number of employees exceeds 50, the employer is compelled to employ a nurse or dispenser and prohibits employers from punishing employees.

The regulations further mandate provisions for the keeping of records of gold, valuable minerals and precious stones; the payments of royalties on gold, valuable minerals and precious stones; the sale and purchase of gold, valuable minerals and precious stones; and on the export of precious stones.

Part XXII of the regulations applies to the rights, privileges and restrictions on Amerindians, and the miscellaneous provisions provide for the disposal of forfeited gold, valuable minerals and precious stones.

4.1.4.1 ENVIRONMENTAL PROVISIONS

Provisions are made in the regulations concerning the construction of dams, which can be understood to relate to the construction of tailings, detention and sediment control structures.

A dam can be constructed on state land as part of a mining operation. However, no earth, stone, gravel, debris, or tailings is to be deposited on a claim held by another person without their consent. This regulation also mandates that any area of water containing poisonous or hazardous substances used in the treatment of gold or other minerals must be fenced to prevent unintentional access and notice warning signage erected to prevent the use of the water. In addition, contaminated water must not knowingly be allowed to be released by a claim holder or his agents or to enter any water body, watercourse or any stagnant water without having been appropriately treated. The stipulations of these regulations are applicable to the siting of tailings ponds and the management of effluent discharge from ponds.

Further provisions are made regarding the use and impacts on water resources (including damming), specifically watercourses and their use for navigation purposes. Limits on effluent

disposal are also covered by the requirement preventing water containing any poisonous or injurious chemical solution to be released or enter any water courses or water bodies without having been previously rendered innocuous.

4.1.4.2 SAFETY PROVISIONS

Health and safety regulations are not explicitly detailed in the Mining Regulations. However, the provisions detailed in Part XIII can be interpreted as relating to health and safety. Restrictions apply to underground works and the age of the employees carrying out specific tasks. The safety provisions detail requirements for the use of shafts, methods of signalling, covering of underground braces, and the use of chains for lowering or raising persons in a shaft or plane. Furthermore, provisions are made for the underground workings of the mine to be appropriately ventilated.

Explosive use is permitted under specific conditions. These include the storage in an appropriate magazine located at not less than two hundred feet from where any blasting operations are being carried out. Restrictions also apply to the transportation of explosives. Detonators for blasting are required to be stored on the surface in a covered box within a magazine at least fifty feet from where the explosive is stored. Notification is required when blasting operations are being carried out. Requirements on how to deal with missed charges are also included.

4.1.4.3 USE OF POISONOUS SUBSTANCES

The poisonous substances regulations are applicable primarily to the use of mercury and cyanide in gold mining operations. The regulations stipulate that no person shall use elemental mercury or any form of mercury. Contravention of the regulations will result in a Cease Work Order being placed on the operations on the claim or area until clean-up is undertaken to the satisfaction of the Commissioner.

No operation in which cyanide or any preparation containing cyanide is used in the treatment of gold or other minerals may be commenced until the necessary buildings, structures, rooms, appliances, and other arrangements to carry out these operations have been inspected and approved by a mines officer. In addition, it is required that, where cyanide is used, an approved cyanide antidote must be kept in a visible and convenient place in a clearly labelled box containing instructions for use. The mine manager must ensure that all the staff working where cyanide is used are familiar with the location of the antidote and how to use it. Cyanide or other poisonous substances used in any mining or milling process are required to be kept in a separate compartment that must be kept locked and in the care of an authorised person. No cyanide or any other substances can be removed from the mine premises without the written permission of the manager. All holders of licenses and permits as granted under the Mining Act must adhere to the provisions of the Code of Practice on Use and Handling of Poisonous Chemicals as published jointly by the Commission and Environmental Protection Agency, which is periodically updated. The regulations also require that an adequate and clearly labelled supply of drinking water is provided in all premises where cyanide or any preparation containing cyanide is used.

A register is kept by the Commission containing information related to cyanide. The register is available for public inspection, free of at the office of the Commission during office hours.

Copies of any entry in the register can be purchased with a prescribed fee from the Commission. The information included in the register consists of the following:

- the name of the person to whom the cyanide permit is granted;
- the date that the permit was granted, and its expiration and renewal dates;
- the date and reason for revocation and suspension of the license or permit and the duration of the suspension period;
- the number of the license or permit;
- the amount of cyanide purchased and any other relevant remarks.

Furthermore, the owner or manager of any claim or mine must keep a log of the quantities of cyanide and other poisonous substances received and issued in situations in which such substances are used for any purpose. The record of each poisonous substance must be kept separately and must include the date of receipt, the date of issue, quantities received or issued, the balance of stock, and the signature of the receiver or issuer. The log and records must always be kept available for inspection by a mines officer.

Provisions are made within the regulations that all vessels or plant/equipment used for the treatment of zinc or lime with acid, or cyanide processes, are fitted with devices that disperse the fumes generated. Facilities producing fumes must be located downwind of residences.

4.1.4.4 REQUIREMENTS FOR ENVIRONMENTAL MANAGEMENT FOR LARGE SCALE MINING

The regulations set out specific requirements for environmental management of large-scale mining operations. Anyone intending to use cyanide at the final stages of processing and to dispose of effluent is required to apply to the Commission, in advance, for a cyanide permit. A set fee must be submitted with the application. The application must include the following information:

- the site characteristics and layout, the design or process and amount of cyanide to be used;
- the distance to water bodies, the ground water regime and the method of disposal of the tailings;
- any possible effects on the environment;
- a simplified description of the activity; and
- actions to be undertaken to minimise the long-term use of cyanide.

If the Commission, after consultation with the EPA, is satisfied that there have been material changes in the circumstances that existed at the time a cyanide permit was granted, it will notify the permit holder and advise that a new permit must be applied for and that the current permit will remain valid only up to an agreed date.

A cyanide permit is not transferable without the permission of the Commissioner. The conditions within a permit that is authorised for transfer may be changed or added to at the discretion of the Commissioner.

The Commission may refuse to grant a cyanide permit where it has reason to believe that the application has been based on false or misleading information; or where, after consultation with the EPA, it has foreseen adverse effects on the environment.

Under certain circumstances a cyanide permit might be suspended by the Commission. When a cyanide permit is suspended, the Commission will notify the permit holder in writing detailing the circumstances that have given raise to the suspension; requiring the permit holder to remedy any breaches within a specified period; and stating whether the cyanide permit is to be returned within a specific time to the Commission.

The Commission, EPA, the mining associations and educational training institutions must, in accordance with the curricula approved by the Commission, jointly or singly provide training and certification courses for miners on the proper use of mercury and cyanide and environmental hazards associated with mining activities. The Commission is also mandated by the regulations to prepare a Code of Practice that will provide further guidance on practices involving the use of mercury, cyanide and the disposal of effluent.

Every holder of a Mining License, Prospecting Permit or Mining Permit is also required to lodge an Environmental Bond in favour of the Commission, for an amount to be determined by the Commissioner. All or part of the Environmental Bond will be used by the Commission to restore the environment where restoration was not undertaken to the Commissioner's satisfaction. The permit- or license-holder has three months from the restoration due date to restore the relevant area before the appointment, by the Commission, of a third party to undertake the work.

Holders of prospecting and mining licenses are also required to prepare a contingency and response plan in accordance with the Code of Practice. The plan must set out provisions for hazards in mining operations including practical mechanisms for responding to cyanide and fuel spills, spills of other poisonous or hazardous substances, and breaches of tailings ponds. Any person who contravenes this regulation commits an offence. Holders of prospecting and mining licenses and medium scale permits are required to ensure that all relevant information in the contingency and emergency response plan is communicated to employees and independent contractors. The plan must include information on first person response, notification procedures, location of clean-up equipment, an analysis of potential accidents and responses, and safety data sheets for all materials which could be spilled.

The regulations also require that a closure plan is prepared before any new prospecting or mining license is issued by the Commission. The closure plan must be approved by the Commission before a new prospecting or mining license is issued. The closure plan is required to include:

- measures for the backfilling of mine pits;
- the sealing or capping of shafts at closed mines in accordance with the Code of Practice or the directions of an appropriate authority at the Commission;
- the stripping and stockpiling of topsoil for use in reclamation;
- the replacement of topsoil and vegetation of disturbed lands; and
- the restoration of water courses, where appropriate.

4.1.4.5 GENERAL REQUIREMENTS

The general requirements of the regulations specify that the Commissioner will determine the permitted number of dredges or mining operations in any area that may already be affected, or which is likely to be affected, by tailings discharge. The Commissioner will also direct the method of mining permissible in such areas, if necessary. The Commission will undertake

sampling and tests to determine the percentage of clay content found in the overburden or deposit or the total load of clay which may be released in the tailings as a basis for their considerations. The Commissioner can also regulate the Nephelometric Turbidity Units (NTU) value at the affected area. Operators of land-based operations are required to discharge tailings into a tailings pond or into a waterbody where the critical turbidity has not exceeded 30 NTU. River operators are required to discharge tailings into either a tailings pond on land or to a river, creek or stream where the critical turbidity has not exceeded 30 NTU (or in another manner approved by the Commissioner).

Operators are also required to ensure that discharges from tailings ponds or a dredge into any waterbody does not exceed either 100 mg/l of total suspended solids (TSS) or 50 NTU. The Commissioner is authorised to stipulate the limits for chemical contamination. Discharges from tailings ponds and river dredges are required to be released underwater through a conduit at a minimum depth specified by the Commissioner. Where any operation exceeds either of the stipulated limits, the operator will be cited for such breach and be given twenty-four hours within which to rectify the violations. The operators are also required to keep a daily record of the values of the total suspended solids or NTU readings of the discharge collected by grab sample.

Where settling ponds are used as parts of the mine drainage system, discharging channels are required to be culverted, and where necessary slopes must be protected from erosion. Settleable solids must be removed from tailings discharges from on-land mines and every settling pond must have a minimum water residence time equivalent to the aggregate volume of slurry processed or water used in each sluice box or mine processing device in any continuous two-hour period with discharge being in accordance with the effluent limits.

Operators are also restricted from disposing of petroleum products or any matter containing tars, oil, grease, or any hazardous substances directly on the surface of the land or in a waterbody.

The regulations require that all hazardous waste is sealed in marked barrels made of, or lined with, plastic and stored in a dedicated area. The accumulated waste must be brought to the Commissioner's attention for treatment as appropriate.

The applicant must provide the following information regarding the disposal of effluent to the Commission: the site of the disposal, the amount of the disposal, and the possible effects on the environment.

All tailings dams or water retaining dams higher than 16 feet or six meters must be inspected annually by a qualified civil, mining or geotechnical engineer registered with the Commission and approved by a recognised engineering body. The reports of such inspections must be kept on file and be available for review by inspectors of the Commission. Every tailings pond must be equipped with emergency spillways that pass the flows from the probable maximum flood to prevent overtopping of dams under extreme rainfall or runoff rainfall.

The regulations also specify that no compensation will be paid to a holder of a permit where the decision to cancel the permit was necessary for the purposes of protecting and conserving the environment, any animal or plant or by reason of an unforeseeable change in circumstances since the permit was granted.

4.1.4.6 PROTECTED AREAS

Mining and quarrying activities are not permitted within 20 meters of the low water mark of a riverbank except for access of dredges from the river, in specified nature reserves and parks where resource extraction is prohibited, or in buffer areas without the express approval of the Commission and the notification of parties likely to be affected by the activity. In addition, dry mining or excavation is not permitted in any watershed without prior permission from the Commissioner.

4.1.4.7 POLLUTION CONTROL

Environmental monitoring must be conducted for every mine, including new mines. Each environmental monitoring program must be submitted to the Commission for approval as part of the Environmental Management Plan.

4.1.5 PESTICIDES AND TOXIC CHEMICALS CONTROL ACT AND REGULATIONS

The Pesticides and Toxic Chemicals Control Act No. 13 of 2000, amended in 2007, regulates the manufacture, importation, transportation, storage, sale, use and disposal of pesticides and toxic chemicals. The Act is relevant to Project activities as the Project will require toxic chemicals, such as cyanide, to be imported and used.

The Act established the Pesticides and Toxic Chemicals Control Board, which is responsible for registering pesticides and toxic chemicals, advising the Minister on matters relevant to the making of regulations under this Act, and advising on the monitoring and implementation of those regulations. The Act also established that only licensed persons are allowed to import, manufacture, and sell pesticides or toxic chemicals.

The Act's regulations include the Pesticides and Toxic Chemicals Regulations 2004 and its subsequent amendments of 2006 and 2019. These regulations provide for the control of the manufacture, importation, handling, storage, placing on the market, and use of pesticides and toxic chemicals. The regulations also require hazardous substances to be classified and registered.

4.1.6 THE PUBLIC UTILITIES COMMISSION (PUC) ACT

The PUC Act of 1997 (updated 2016) makes provisions for the PUC's establishment, function, and procedure, and related matters. The Act addresses the functions of the PUC and the duties of other utilities in complying with the Act. Under the Act, development and expansion by other public utilities should obtain approval from the PUC.

Section 21 of the Act states that in carrying out its responsibilities, the PUC is bound by the provisions of the Guyana Energy Agency Act and Electricity Sector Reform Act, the terms of any license issued by the government to a public utility, and the terms of an agreement between the government and a public utility—or between the government and an investor. The PUC is responsible for economic research to assess rates and efficiency for public utility services and for monitoring regulatory trends in Guyana and other countries to inform its decisions on standards, quality of service, pricing, and evaluation of development and expansion programs.

4.1.7 PROTECTED AREAS ACT

The Protected Areas Act was enacted in 2011. It protects and conserves Guyana's natural heritage and capital through a national network of protected areas. The Act also allowed for the creation of the Protected Areas Commission to oversee the management of this network. It highlights the importance of maintaining ecosystem services of national and global importance and public participation in the conservation of protected areas. It establishes a protected areas trust fund to ensure adequate financial support for the maintenance of the network. Other functions of the Act included promoting national pride in and encouraging stewardship of Guyana's natural heritage; recognising the conservation efforts and achievements of Amerindian villages and communities; and promoting the recovery and rehabilitation of vulnerable, threatened, and endangered species.

There is one protected area, Kaiteur National Park, located approximately 25 km west of the Project (Esri, HERE, Garmin, USGS, NGA, 2019). Kaieteur National Park (KNP) is the oldest protected area in the Amazon region, established in 1929 by Ordinance No. 41 of the KNP Act of 1929 "*to provide for the control of the said park and for the preservation of the natural scenery, fauna and flora*". In 1973, the Act was amended, decreasing the Park's size from 116.6 km2 to 19.4 km2 to facilitate mining operations in the region. Subsequently, on March 9, 1999, order (No. 4) further revised the Act, expanding the park to its present size of 626.8 km2 (62,700 ha) to enhance management efforts and safeguard against activities that might harm the ecosystem (Protected Areas Commission, n.d.).

In January 2009, WWF-Guianas and the National Parks Commission agreed to create an integrated management plan for KNP, with support from various stakeholders including the Environmental Protection Agency and indigenous Patamona communities. Following the Protected Areas Act 2011, KNP became part of Guyana's National Protected Areas System, now managed by the Protected Areas Commission to protect the country's natural heritage (Protected Areas Commission, n.d.).

4.1.8 AMERINDIAN ACT

The Amerindian Act was enacted in 2006. It provides for the recognition and protection of the collective rights of Amerindian villages and communities, granting lands to Amerindian villages and communities, and promoting good governance with Amerindian villages and communities. The Ministry of Amerindian Affairs oversees the implementation of the Act. Key aspects of the Act include the following:

- The Act includes a process for the granting of land. A community can apply for land once they prove that they have been living on it for at least 25 years.
- The Ministry is not required to approve the leasing of titled Amerindian land. The communities are only required to seek the advice of the Minister.
- With respect to the use of scientific research related to Amerindian issues, the researcher must, among other things, submit a copy of any publication containing material derived from the research to the Village Council.
- The Act supports the need for the communities to use their natural resources in a way that supports the concept of sustainability. EIAs are required under the EP Act.

- Amerindians have a legal right to traditional mining with the Village Council's consent and must comply with the relevant legislation. Regarding forestry, the Village Council plays an integral role in determining who is allowed to use their land and on what terms.
- The Village Council is empowered to establish rules for their community and set fines within the legal confines of the law. Money received due to the non-adherence to the rules is paid into the Village Council's account, not the government's.

The closest Amerindian community, Campbell Town, is located 5.5 km to the north of the EMPL area. Micobe Amerindian community is located approximately 13 km to the north-east of the eastern EMPL boundary (Esri, n.d.)

4.1.9 NATURAL RESOURCE FUND ACT

The Natural Resource Fund Act was enacted in 2019 to establish the National Resource Fund ("the Fund") to manage Guyana's natural resource wealth efficiently and effectively for the present and future benefit of the people and for financing national development priorities, including initiatives aimed at achieving an inclusive green economy. The Act provides the legal basis for establishing the Fund that will manage the natural resource wealth to ensure intergenerational equity. The Act aims to ensure proper management and accountability of the finances garnered from the use of Guyana's natural resources. The Minister of Finance is responsible for the overall management of the Fund under the Act, including preparing the Fund's Investment Mandate. The Act establishes an Investment Committee, a Macroeconomic Committee, and a Senior Investment Adviser and Analyst to support the Minister in the management of the Fund.

The Bank of Guyana is responsible for the operational management of the Fund. A Public Accountability and Oversight Committee was established to ensure that the Fund is managed transparently and to provide an independent assessment of withdrawals from the Fund.

4.1.10 OCCUPATIONAL SAFETY AND HEALTH ACT 1997

The Occupational Health and Safety Act 1997 contains provisions applicable to regulating health and safety in mines. In 2002, a draft Mining Occupational Safety and Health Regulation was proposed by the Ministry of Labour, Human Services and Social Security with the assistance of the International Labor Organisation (ILO). The mine will be required to operate under the Act.

The Act governs the regulation of industrial establishments as it relates to the safety and health of workers. The Act is the primary legislation governing workplace health and safety, and it applies to different types of workplaces. It details the rights and duties of all parties in the workplace, and it also details procedures for addressing health and safety non-conformities at the workplace. While the Act governs and guides self-employed individuals, employers, and employees, the Occupational Safety and Health Department is mandated to conduct regular workplace inspections to ensure compliance with the Act.

4.1.11 PUBLIC HEALTH ACT CAP 145

Section 2 of the Public Health Act Cap 145 states that mining districts under the Public Health Act are understood to include mining districts established under section 4 of the Mining Act. Under Section 147, the Minister responsible for Health is enabled to make regulations

generally for the sanitary control of the whole or a part of mining districts and the health and welfare of the inhabitants.

4.1.12 FOREST ACT 2008

The Forest Act 2008 consolidates and amends the law on forests. It governs all activities that are carried out in the forest, including mining and associated activities. Under this Act, no person is permitted to engage in the following unless a mineral prospecting or mining license has been granted under the Mining Act 1989:

- Enter and occupy state forests;
- Cut, damage or take any forest produce or carry on any kind of forest operation; or
- Carry out any exploratory operation in a state forest.

The Guyana Forestry Commission (GFC), with the approval of the Minister, is vested with the power to carry out the purposes of the Act.

4.1.13 WILD BIRDS PROTECTION ACT CHAPTER 71:01

The Act promotes the protection of certain wild birds. Wild birds are defined in the schedules 1 and 2 of the Act. Schedule 1 wild birds are protected absolutely. It is an offence to wound, kill, expose for sale, and offer for sale or export wild birds that are absolutely prohibited. Schedule 2 wild birds receive protection only during a prescribed closed season. However, it is not an offence to wound or kill any wild bird for the purpose of procuring food and if done ten miles or more from a plantation. There are no provisions for the protection of wild birds relative to mining operations. However, conservation of biological resources is applicable to the Project.

4.1.14 GUYANA FORESTRY COMMISSION (GFC) ACT 2007

The GFC Act 1979 was repealed and replaced by the GFC Act 2007. The functions of the Commission, as defined in the act, include the following:

- To provide advice on forest-related issues and the formulation of forest policy.
- To prepare plans, codes of practice, and guidelines for the conservation and management of forests.
- To research, collate, analyse, prepare, and disseminate data, statistics and other information about forests and all aspects of forestry, including forest ecology and the use of forest produce.
- To inspect, certify and accredit services for quality control of forest produce.

The Project will entail the management and reclamation of forest resources, and this Act must therefore be adhered to.

4.1.15 WILDLIFE CONSERVATION AND MANAGEMENT ACT 2016

- The Act established the Guyana Wildlife Conservation and Management Commission The aim and purpose of the Wildlife Conservation and Management Act 2016 are:
- To create a supportive mechanism cognisant of the national goals for wildlife protection, conservation, management and sustainable use;
- To create a national framework and mechanisms governing the local and international trade in all species of Guyana’s wildlife;

- To implement the primary provisions of the Convention (this is required by Article VIII of the Convention); and
- To provide a framework of licensing and decisions which support core principles of transparency, certainty, natural justice and fairness.
- The Project which will develop biodiversity management plans in compliance with the Act.

4.1.16 WATER AND SEWERAGE ACT 2002

The Guyana Water and Sewerage Act of 2002 governs the provision, management, and regulation of water supply and sewage services in Guyana through the establishment of the National Water Council, and the creation of Guyana Water Inc. The Act establishes standards for the delivery of safe and reliable water and wastewater services, aiming to ensure public health and environmental protection. It outlines the operational framework for the Guyana Water and Sewerage Authority (GWSA), detailing its responsibilities, powers, and functions in managing water resources and infrastructure. Additionally, the Act includes provisions for tariff regulation, service quality, and the rights and responsibilities of consumers, promoting efficient resource management and sustainable practices in the sector. Overall, the legislation seeks to enhance access to clean water and sanitation for all citizens, while promoting sustainable development. The Project will adhere to this legislation in its water related activities.

4.1.17 TOWN AND COUNTRY PLANNING ACT

The Town and County Planning Act of Guyana provides for the planning and orderly development of land, cities, towns, and other rural and urban areas to maintain and improve their amenities, ensure fair sanitary conditions, and plan road infrastructure and public services.

The Act also guides the conservation and development of areas under its mandate. Execution and enforcement are vested under the Central Housing and Planning Authority (CH&PA). The CH&PA is responsible for preparing spatial development and land-use plans in collaboration with the local authorities of each geographic area. These plans guide all future development, including housing development and regulated land use through the planning permission process.

4.1.18 ACQUISITION OF LANDS FOR PUBLIC PURPOSES ACT

The Acquisition of Lands for Public Purposes Act governs the land acquisition process and provides the framework under which the government handles valuation, compensation, engagement, and grievances. The Act empowers the Government of Guyana to acquire any area for the proposed construction of public infrastructure by declaring works as “public works” and land as “land required for public works” (Sections 3 and 6 of the Act). The Minister of Public Works can also authorise the Commissioner of Lands and Surveys and the Commissioner’s agents to enter the land declared, provided that at least seven days’ notice is given to the occupier in writing prior to entering any property, to conduct surveys, take levels, dig or bore into the subsoil, or examine the area with a view to the acquisition of the whole or a part of it for the construction of a public work (Sections 4 and 5 of the Act).

4.2 NATIONAL ENVIRONMENTAL PERMITS AND LICENSES

As part of Project implementation, the Project will be required to obtain the following key environmental-related permits.

Stronghold Guyana is required to obtain an environmental authorisation (also commonly referred to as an Environmental Permit) from the EPA to undertake the Project. The Application for Environmental Authorisation filed with the EPA on the 1st of April 2021 initiated this regulatory process. After submission and review of this EIA report, the EPA will take into account comments from other agencies and from the public in deciding whether and under what conditions to grant Stronghold Guyana an environmental authorisation for the Project. The EPA's review will include support from technical experts and recommendations from the Environmental Assessment Board (EAB).

4.2.1 HAZARDOUS WASTE PERMIT

Regarding onshore waste management, an Application for Environmental Authorisation must be submitted to the EPA by the proposed operator of any facility that will generate, transport, treat, store, or dispose of hazardous waste. The Application for Environmental Authorisation must be prepared in accordance with the provisions of regulation 17 of the Environmental Protection (Authorisations) Regulations 2000. As such, the vessel or vehicle owners and operators will be required to obtain authorisation to transport hazardous waste from Project facilities to off-site waste management facilities. For any third party-owned or operated vessels or vehicles used to transport hazardous waste from the Project, the environmental authorisation will need to be obtained by the third party. Similarly, any environmental authorisations for third-party operated facilities used to manage hazardous waste will need to be obtained by the owner/operators of such facilities.

4.2.2 GUYANA LANDS AND SURVEYS COMMISSION (GLSC)

The GLSC facilitates land administration in fulfilment of the needs of its clients and for national development. The GLSC is a governmental institution responsible for, among other things, advising the government on the management of state lands, land-use policies, issuance of land titles and leases, and provision of governmental support for land use development and collection of rents from leased lands. As a result, the GLSC acts as the custodian for state lands, including rivers and creeks. In addition, it enables surveys; publishes maps and charts for different localities; approves, records, and clarifies all land surveys; and accounts for all financial transactions payable concerning the sale of public lands as prescribed by law.

4.2.3 MINISTRY OF AGRICULTURE

The Project will interface with various sub-agencies under the mandate of the Ministry of Agriculture, as discussed below.

4.2.3.1 GUYANA RICE DEVELOPMENT BOARD (GRDB)

The Guyana Rice Development Board was established under the Rice Development Act of 1994 as a policy-making regulatory body for the rice industry. The Board's main functions are to develop the rice industry, propel research, and disseminate knowledge to rice farmers.

4.2.3.2 NATIONAL DRAINAGE AND IRRIGATION AUTHORITY (NDIA)

Established in 2006 under the Drainage and Irrigation Act of 2004, the National Drainage and Irrigation Authority is the government agency responsible for managing, improving, extending, and providing drainage, irrigation, and flood-protection services across Guyana. The Project is expected to result in temporary and/or permanent changes to the configuration of ditches and streams within portions of its footprint. Stronghold Guyana will therefore consult with the Authority and seek approvals as needed.

4.2.3.3 NATIONAL AGRICULTURAL RESEARCH AND EXTENSION INSTITUTE (NAREI)

Established in 1984 and amended in 2010, the National Agricultural Research and Extension Institute (NAREI) is responsible for promoting efficiency in the production of crops and other agriculture products, regulating trade in agricultural products, and disseminating knowledge to farmers across Guyana through extension services. NAREI also holds responsibility for the Guyana Mangrove Restoration Project, which became its permanent responsibility.

4.2.4 LOCAL AUTHORITIES

Governed by the Ministry of Local Government and Regional Development, Regional Democratic Council #8 is the supreme local government body in Region 8. It has responsibility for the overall management and administration of Region 8 and the coordination of the activities of all Neighbourhood Democratic Councils (NDCs) within its boundaries. The NDCs cover defined geographic areas within the region and are responsible for managing and administrating the communities within these areas. With respect to the Project, Stronghold Guyana will request permission, as needed, from Regional Democratic Council #8 and the NDCs crossed by the Project.

4.3 NATIONAL POLICY FRAMEWORK

In June 2009, the Government of Guyana announced the Low Carbon Development Strategy (LCDS). Initially, the LCDS focused on protecting and maintaining forests to reduce global carbon emissions and, at the same time, attract payments from participating developed countries for the climate services that Guyana's forests provide. In 2013, the LCDS was updated to focus on two main goals: (1) transforming the national economy to deliver greater economic and social development by following a low-carbon development path while simultaneously combating climate change; and (2) providing a model for how climate change can be addressed through low-carbon development in developing countries (Office of the President 2016). The LCDS identifies Reducing Deforestation and Forest Degradation Plus as the primary mechanism for achieving the goals of the strategy.

In November 2021, a draft update to the policy titled Guyana's LCDS 2030 was circulated for national consultation. This draft update adds a new objective of aligning with global climate goals, especially a plan to "…grow the economy up to five-fold while keeping greenhouse gas emissions from energy generation at around 2019 levels" (Government of Guyana 2021). It includes a plan to replace Heavy Fuel Oil (HFO) with natural gas as the main energy source as a bridge to an energy system sourced largely from hydropower, solar, and wind power.

4.3.1 THE NATIONAL DEVELOPMENT STRATEGY 2001–2010

The National Development Strategy sets out the primary development policy framework for Guyana. It provides a framework for national planning and captures a number of cross-sectoral issues such as the environment, forestry, agriculture, mining, tourism, and fisheries. The Strategy proposes a program of diversification focusing on the production of non-traditional commodities, for both the domestic and export markets, to broaden the base of Guyana's economy while consolidating and expanding the performance of traditional sectors. Chapter 16 of the Strategy emphasises actions to mitigate harmful consequences to the environment through increased monitoring and enforcement and using the most appropriate and up-to-date environmentally friendly methods.

4.3.2 THE NATIONAL LAND USE PLAN

In 2013, the National Land Use Plan (NLUP) was developed by the GLSC to provide a strategic framework to guide land development in Guyana; it is supported by a number of national policies and strategies that have relevance for land use and land management. The NLUP promotes multiple land uses and aims to enable financial resources to be targeted at optimal land uses at the regional level. The NLUP is expected to support decision-making by the GLSC when considering development options and constraints throughout the country. The NLUP is also intended to be included in land lease decision processes to encourage decisions that optimise the use of Guyana’s resources for the benefit of its people. In 2018, the Government of Guyana began preparing a National Land Policy with support from the Food and Agriculture Organisation.

4.3.3 NATIONAL ENVIRONMENTAL ACTION PLAN (NEAP)

The National Environment Action Plan (NEAP) developed in 1994 outlined the Government of Guyana’s main environmental policy objectives for sound management of the environment and natural resources. The Project must be undertaken based on sound environmental management practices. The National Environmental Action Plan is consequently considered applicable to the Project.

Guyana’s NEAP articulates the government’s approach to managing the environment from the perspective of economic development. The NEAP outlines several policy objectives, one of which calls for the government to ensure that environmental assessments of proposed development activities that may significantly affect the environment are undertaken. In keeping with this environmental policy objective, the EP Act was introduced in June 1996, and the legal framework for authorising development activities was established.

The NEAP considers the issues of environmental management, economic development, social justice, and public health to be inextricably linked. It identifies deforestation, pollution, and unregulated gold mining as growing environmental concerns and identifies private-sector investment as one of the primary opportunities to generate the necessary capacity within Guyana to (1) provide an appropriate level of public services to its citizens; (2) reduce and/or eliminate the avoidable environmental degradation from resource development that occurs in a regulatory vacuum; and (3) reduce unsustainable uses of natural resources due to the socioeconomic pressures of widespread poverty.

4.3.4 NATIONAL BIODIVERSITY ACTION PLAN

The National Biodiversity Action Plan (NBAP) was prepared in 1999 to integrate the implementation of the Convention on Biological Diversity into national development. The overall goal of the NBAP was "to promote and achieve the conservation of Guyana's biodiversity, to use its components in a sustainable way, and to encourage the fair and equitable sharing of benefits arising out of the use of Guyana's biodiversity". The stated objectives of the plan were as follows:

- To evaluate the state of capacity nationally to achieve the above goal;
- To identify gaps and needs relating to achieving the above goal;
- To propose actions to achieve this goal and close the gaps;
- To develop activities in a number of priority areas relating to the overall goal;
- To identify the roles and responsibilities of the various stakeholder groups in the implementation of the plan; and
- To increase public awareness of biodiversity.

The objectives of the National Biodiversity Strategy and Action Plan (NBSAP) 2012–2020 are aligned to the overall strategic objectives of the Ministry of Natural Resources and the Environment (MNRE). The aim is to use and manage biodiversity sustainably in all sectors that contribute to Guyana's socio-economic and low carbon development by 2030. The strategy comprises nine strategic objectives (SO):

- SO1 – to improve the status of biodiversity by conserving ecosystems, species, and genetic diversity in degraded areas;
- SO2 – to promote the conservation, sustainable use, and value of biodiversity into key productive sectors;
- SO3 – to expand and improve awareness, appreciation, and communication on biodiversity and ecosystems;
- SO4 – to improve national implementation and monitoring for Multilateral Environmental Agreements (MEAs);
- SO5 – to create stronger and wider national, regional, and international partnerships that contribute to achieving the goal and objectives of this Plan;
- SO6 - to harmonise legal and administrative frameworks that support the sustainable use, protection, and management of biodiversity;
- SO7 - to improve substantially biodiversity monitoring at the national level and within key productive sectors;
- SO8 – to strengthen the knowledge and capacity for conservation and sustainable use of biodiversity; and
- SO9 – to secure adequate resources from national sources for the implementation of the Plan.

The Plan acknowledges the potential threats posed by mining to biodiversity and promotes the integration of biodiversity concerns into mining.

4.4 INTERNATIONAL CONVENTIONS

Guyana has joined, signed, and/or ratified several agreements, conventions, and treaties in the field of natural resource management, environmental protection, and cultural heritage. The key international conventions of relevance to the Project are included in Table 4.1.

TABLE 4.1 INTERNATIONAL CONVENTIONS RELEVANT TO THE PROJECT

Conventions	Year (Ratified/Accepted)
Environmental Conventions	
Paris Agreement (Paris Climate Accords), 2015	Ratified in 2015
Stockholm Convention on Persistent Organic Pollutants, 2004	Accession in 2007
United Nations Convention to Combat Desertification, 1996	Accession in 1997
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, 1993	Accession in 2001
United Nations Framework Convention on Climate Change, (UNFCCC), 1992	Ratified in 1994
Convention on Biological Diversity, 1992	Ratified in 1994
Montreal Protocol on Substances that Deplete the Ozone Layer, 1987	Accession in 1993
Vienna Convention for the Protection of the Ozone Layer, 1985	Accession in 1993
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITIES), 1975	Accession in 1977
International Plant Protection Convention, 1952	Accepted in 1970
Kyoto Protocol to the United Nations Framework Convention on Climate Change, 1997	Accession in 2003
Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, 1998	Accession in 2007
Minamata Convention on Mercury, 2013	Ratified in 2014
Protocol Concerning Pollution from Land-Based Sources and Activities (LBS), 1999	Ratified in 2010
Protocol Concerning Specially Protected Areas and Wildlife (SPAW), 1990	Ratified in 2010
Treaty on Cooperation for the Development of the Amazon Basin (ACTO), 1995	Signed in 1995
Cultural Heritage Conventions	
Protection of the World Natural and Cultural Heritage, 1972	Accepted in 1977
UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expression, 2005	Accession in 2009
Social Conventions	
Relevant ILO Conventions in force in Guyana • C029 - Forced Labour Convention, 1930 (No. 29) • C087 - Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87) • C098 - Right to Organise and Collective Bargaining Convention, 1949 (No. 98)	 Ratified in 1966 Ratified in 1967 Ratified in 1966

Conventions	Year (Ratified/Accepted)
• C100 - Equal Remuneration Convention, 1951 (No. 100) • C105 - Abolition of Forced Labour Convention, 1957 (No. 105) • C111 - Discrimination (Employment and Occupation) Convention, 1958 (No. 111) • C138 - Minimum Age Convention, 1973 (No. 138) - Minimum age specified: 15 years • C155 - Occupational Safety and Health Convention, 1981 (No. 155) • C182 - Worst Forms of Child Labour Convention, 1999 (No. 182) • C081 - Labour Inspection Convention, 1947 (No. 81)[5] • C144 - Tripartite Consultation (International Labour Standards) Convention, 1976 (No. 144) • C019 - Equality of Treatment (Accident Compensation) Convention, 1925 (No. 19) • C042 - Workmen's Compensation (Occupational Diseases) Convention (Revised), 1934 (No. 42) • C095 - Protection of Wages Convention, 1949 (No. 95) • C097 - Migration for Employment Convention (Revised), 1949 (No. 97)[6] • C131 - Minimum Wage Fixing Convention, 1970 (No. 131) • C135 - Workers' Representatives Convention, 1971 (No. 135) • C139 - Occupational Cancer Convention, 1974 (No. 139) • C140 - Paid Educational Leave Convention, 1974 (No. 140) • C175 - Part-Time Work Convention, 1994 (No. 175)	Ratified in 1975 Ratified in 1966 Ratified in 1975 Ratified in 1998 Ratified in 2012 Ratified in 2001 Ratified in 1966 Ratified in 1983 Ratified in 1966 Ratified in 1966 Ratified in 1966 Ratified in 1966 Ratified in 1983 Ratified in 1983 Ratified in 1983 Ratified in 1983 Ratified in 1997
International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families, 1990	Ratified in 2010
International Convention on the Elimination of All Forms of Racial Discrimination, 1966	Ratified in 1977
International Covenant on Economic, Social and Cultural Rights, 1966	Ratified in 1977
Convention on the Elimination of All Forms of Discrimination against Women, 1979	Ratified in 1980
Inter-American Convention on the Prevention, Punishment, and Eradication of Violence against Women (Convention of Belém do Pará), 1994	Ratified in 1996
Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, 1984	Ratified in 1988
United Nations Convention against Corruption, 2003	Accession in 2008
Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean, 2018	Ratified in 2019

4.5 PROJECT-SPECIFIC ENVIRONMENTAL STANDARDS

Guyana has national environmental quality standards. In addition to the local environmental quality standards, the World Bank Group (WBG) EHS Guidelines apply their own set of standards for specific effluents, emissions, and discharges. Application of these guidelines requires that when host country regulations differ from the levels and measures presented in

[5] P081 - Protocol of 1995 to the Labour Inspection Convention, 1947 ratified on 15 Apr 1998 (In Force) Excluding Part II. Guyana has ratified the Protocol of 1995.
[6] Excluding the provisions of Annexes I to III

the World Bank Group EHS Guidelines, projects are required to achieve whichever is the more stringent. If less stringent levels or measures than those provided in the EHS Guidelines are appropriate in view of specific project circumstances, a full and detailed justification must be provided for any proposed alternatives through the environmental and social risks and impacts identification and assessment process.

The IFC General Guidelines for Environment, Health and Safety stipulate that national standards should be used where these are reasonable and based on sound science. Therefore, where a national standard for a specific pollutant in a specific averaging period exists, it will be used as the applicable air quality standard. However, in practice it is advisable to also use standards and guidelines from the IFC, World Health Organization (WHO), and other bodies to demonstrate robust compliance. Guyana has limited national regulatory standards relating to air quality which will be used in the first instance; thereafter the IFC's and WHO's standards will be used. Where WHO and IFC do not cite guidelines, those from the USA and the UK will be referenced.

4.5.1 AIR QUALITY STANDARDS

Air quality pollution prevention and reduction is considered in the Environmental Protection (air quality) Regulations 2000 developed under the Environmental Protection Act 1996. The regulations indicate that anyone who emits any air contaminant in the construction, installation, operation, modification, or extension of any facility related to industry, commerce, agriculture, or any institution must apply to the EPA for an environmental authorisation. The application must be submitted to the EPA at least 180 days before the date on which the emission is to commence. The regulations also indicate that the EPA will establish parameter limits with respect to the emission of smoke, solid particles, sulfuric acid mist, or sulfuric trioxide, fluoride compounds, hydrogen chloride, chlorine, hydrogen sulphide, nitric acid, or oxides of nitrogen and carbon monoxide. At the time of writing, no parameter limits have been made available. The Project proposes to adhere to a combination of the IFC General EHS Guidelines for Air Emissions (2007) and the WHO Ambient Air Quality Guidelines (2021).

The IFC (2007) General EHS Guidelines for Air Emissions and Ambient Air Quality state that projects with significant sources of air emissions, and potential for significant impacts to ambient air quality, should prevent or minimise impacts by ensuring the following:

- Emissions do not result in pollutant concentrations that reach or exceed relevant ambient quality guidelines and standards by applying national legislated standards, or in their absence, the current WHO Air Quality Guidelines or other internationally recognised sources.
- Emissions do not contribute a significant portion to the attainment of relevant ambient air quality guidelines or standards. A general guideline of 25 percent of the applicable air quality standards is suggested, to allow future sustainable development in the same airshed.

The WHO Air quality guidelines are a set of evidence-based recommendations of limit values for specific air pollutants developed to help countries achieve air quality that protects public health. Table 4.2 presents the IFC/WHO guideline values for NO_2, SO_2 and $PM_{10/2.5}$ used in this EIA.

TABLE 4.2 IFC/WHO AIR QUALITY STANDARDS (AQS)

Governing Organisation	Criteria Pollutant	Averaging Period	Air Quality Standard (2001)	Air Quality Standards (2021) – Interim target				Units
				1	2	3	4	
WHO	$PM_{2.5}$	Annual	35	35	25	15	10	$\mu g/m^3$
		24-hour	75	75	50	37.5	25	$\mu g/m^3$
	PM_{10}	Annual	70	70	50	30	20	$\mu g/m^3$
		24-hour	150	150	100	75	50	$\mu g/m^3$
	NO_2	Annual	40	40	30	20	-	$\mu g/m^3$
		24-hour	120	120	50	-	-	$\mu g/m^3$
		1-hour	200	-	-	-	-	$\mu g/m^3$
	SO_2	24-hour	125	125	50	-	-	$\mu g/m^3$
		10-minute	500	-	-	-	-	$\mu g/m^3$
Germany, TA-Luft	Dust deposition	24-hour	0.35	-	-	-	-	$g/m^2/day$

4.5.2 NOISE LEVELS

Operations that emit noise while carrying out activities such as construction, transport, industry, and commerce, are required to apply to the EPA for an environmental authorisation under the Environmental Protection Noise Management Regulations 2000. The EPA is responsible for establishing standards for permissible noise levels across various sectors such as industry and construction. The categories for which permissible noise levels are fixed by the EPA are as follows:

- Residential
- Institutional
- Educational
- Industrial
- Commercial
- Construction
- Transportation
- Recreational.

The Guyana National Bureau of Standards (GNBS), the EPA, and other relevant agencies developed a first revision of Guidelines for Noise Emission into the Environment in 2010. Under these guidelines, noise emissions from industrial and commercial sources for both day (06:00h–18:00h) and night (18:00h–06:00h) would be 100 and 80 decibels (industrial) and 80 and 65 decibels (commercial), respectively, at the property boundary or 15 meters from the source.

Table 4.3 provides the applicable noise level standards from GNBS.

TABLE 4.3 NOISE STANDARDS (DBA)

Category	GNBS Guidelines	
	One Hour LAeg (dBA)	
	Daytime (06:00 – 18:00)	Night-time (18:00 – 06:00)
Residential	75	60
Industrial	100	80
Commercial	80	65
Construction	90	75
Transportation	100	80
Recreational	100	100 – 70
Institutional	75	60
Educational	75	60

4.5.3 MINING WATER QUALITY STANDARDS

The Environmental Protection (Water Quality) Regulations are described in 4.1.2.1. The EPA was mandated in accordance with these regulations to establish parameter limits for concentrations of the constituents of effluent that can be discharged into any inland or coastal waters or lands of Guyana. These include: Ammoniacal Nitrogen, Sulphate, Chloride, Cobalt, Colour, Detergents, Anionic, Fluoride (as F), Molybdenum, Phosphate 9 (as P), Polychlorinated Biphenyls, Selenium, Silver, Beryllium, Vanadium, Radioactive Material, Nitrate Nitrogen, Temperature, Pesticides, Fungicides, Herbicides, Insecticides, Rodenticides, Fumigants or any other Biocides, or any other Chlorinated Hydrocarbons.

In addition to the mandates for effluent discharge to the environment, the EPA has established guidelines for water quality associated with mining. These guidelines mandate that both surface and groundwater associated with mining operations be analysed for pH, TDS, TSS, turbidity, conductivity, organic compounds (phenol and oil and grease), major anions (Ca, Mg, Na, K), nutrients (TKN, total ammonia, phosphate, nitrate + nitrite), and trace metals (Al, As, Cd, Co, Cr, Cu, Fe, Hg, Mn, Mo, Ni, Pb, Se, Sb, Zn). The EPA also indicates that concentration levels of these analytes must not exceed levels of environmental concern (generally set as levels to protect aquatic species). The EPA also reserves the right to request analyses to determine bacteriological levels (coliforms, faecal coliforms, and standard plate counts), rare earth elements, radioactive elements, and other trace metals.

As no limits for water quality have been defined by the EPA regarding construction or mining operations, the Project will apply the effluent guideline values provided in the WBG EHS General guidelines for mining. These guidelines for liquid effluents, residual heavy metals, and cyanide are detailed in Table 4.4 Effluent guidelines should be applicable for site runoff and treated effluents to surface waters for general use. These standards do not apply to direct discharge of tailings to the environment.

If natural concentrations of heavy metals exceed the levels indicated in Table 4.4, the discharge may contain concentrations up to natural background levels. Concentrations up to

110% of natural background levels are acceptable if no significant adverse impact can be demonstrated.

TABLE 4.4 MINING EFFLUENT DISCHARGES - MINING

Parameter	Unit	WBG EHS Guidelines Indicative Values for Site Run Off and Effluents to Surface Water
Total Suspended Solids	mg/L	50
pH	pH (SU)	6–9
COD	mg/L	150
BOD_5	mg/L	50
Oil and grease	mg/L	10
Arsenic	mg/L	0.1
Cadmium	mg/L	0.05
Chromium (VI)	mg/L	0.1
Copper	mg/L	0.3
Cyanide	mg/L	1
Cyanide Free	mg/L	0.1
Cyanide WAD	mg/L	0.5
Iron (total)	mg/L	2.0
Lead	mg/L	0.2
Mercury	mg/L	0.002
Nickel	mg/L	0.5
Phenols	mg/L	0.5
Zinc	mg/L	0.5
Temperature	^0C	<3 degree differential

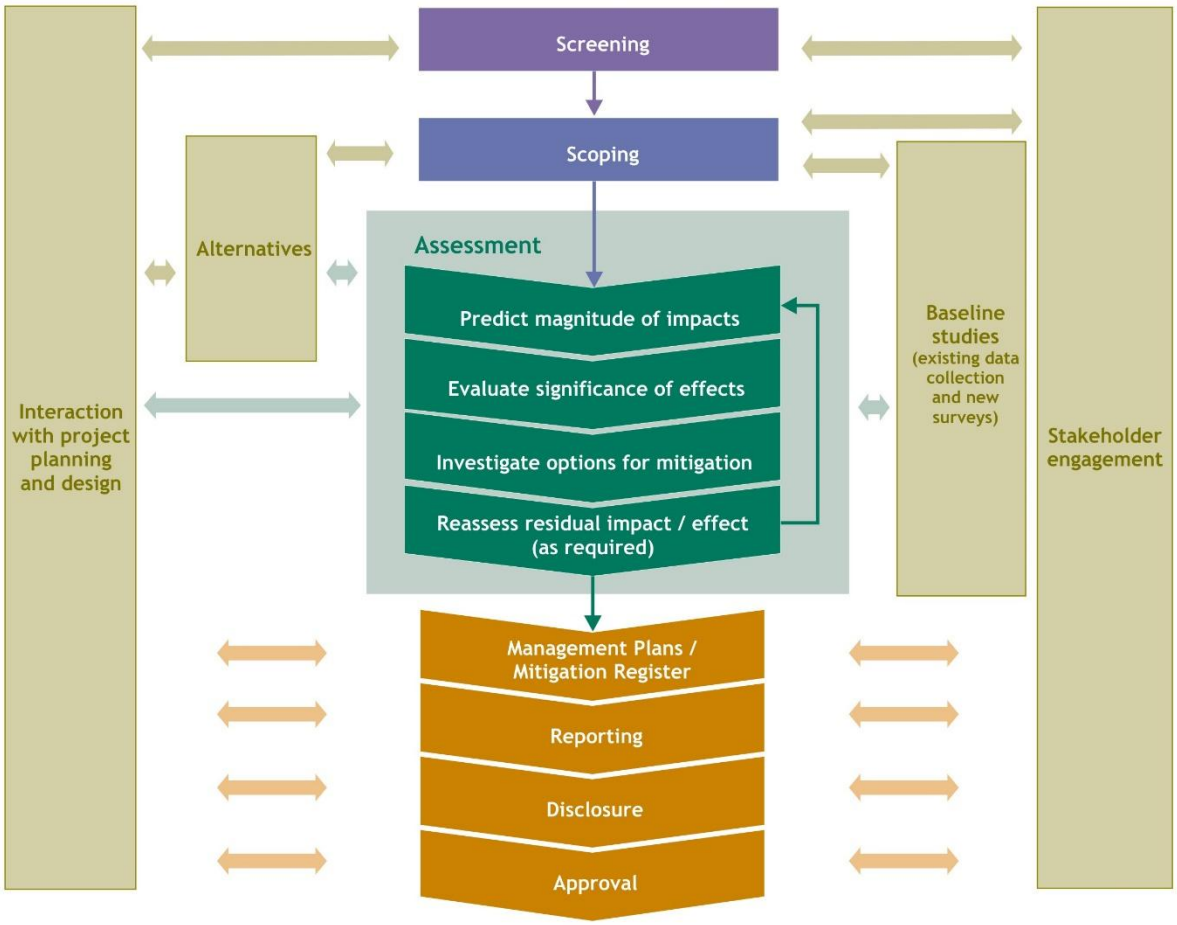
Note: Metal concentrations represent total metals

5. EIA PROCESS, APPROACH, AND METHODOLOGY

5.1 OVERVIEW OF THE EIA PROCESS

This chapter describes the methodology used to assess the identified social and environmental impacts. The impact assessment (IA) identifies the way in which the Project will interact with elements of the physical, biological, cultural, or human environment to produce impacts to resources/receptors. The ERM IA methodology follows the approach shown in Figure 5.1.

FIGURE 5.1 OVERALL APPROACH OF IMPACT ASSESSMENT



The impact assessment methodology described in this section has been developed with reference to internationally recognised best practice. It covers issues specifically associated with the development of a gold mine and associated infrastructure. This enables a focused and refined process for identifying and evaluating impacts.

5.1.1 SCREENING

The first stage in any impact assessment is screening. The aim of the screening phase is to develop a "high level" project description (including alternatives) and to define applicable impact assessment requirements.

5.1.2 SCOPING

Scoping is undertaken to identify the potential Area of Influence (AoI) of the Project (and thus the appropriate study area), to identify potential interactions between the Project and resources/receptors in the AoI, and the impacts that could result from these interactions. This enables these potential impacts to be evaluated in terms of their likely significance.

The scoping exercise for the Project is provided in Volume 1: Chapter 7 of this EIA.

5.1.3 IMPACT ASSESSMENT

The purpose of the EIA is to assess the potential impacts of the Project and Project-related activities on the environment (including biological, physio-chemical, and socio-economic resources), and where applicable to design mitigation or enhancement measures to reduce, minimise, or avoid negative impacts to the environment and people and to rehabilitate and restore degraded ecosystems and compensate or offset any residual impacts.

5.1.4 ANALYSIS OF ALTERNATIVES

A comparative analysis of alternatives for the project is provided in terms of site-location analysis and feasibility, project design, and energy, in Chapter 3 of this EIA report. This analysis includes a no-project scenario.

5.2 IMPACT ASSESSMENT METHODOLOGY

5.2.1 ASSESSMENT OF EXISTING CONDITIONS

The environmental baseline describes the environmental conditions and seasonal variability prior to the Project development. This enables potential impacts to be assessed and provides a baseline from which to monitor future changes. Baseline studies encompassed physical, biological and social conditions.

Baseline information includes the following:

- geographic setting
- air quality
- climate, meteorology, and climate change
- physiography, geology, land, and soils
- landscape and visual
- hydrology
- hydrogeology
- surface water quality
- groundwater quality
- sediment quality
- seismology
- noise and vibration
- waste management
- terrestrial and aquatic ecology
- ecosystem services

- socioeconomics
- transport
- land use
- cultural heritage
- indigenous peoples

5.2.2 STAKEHOLDER ENGAGEMENT

Stronghold Guyana began proactive communication regarding the company's activities in 2025 to lay the groundwork for establishing and maintaining stakeholder relations. Informational meetings and exchanges of information were conducted between Stronghold Guyana and key external audiences, including government officials, stakeholders within the public, and representative non-governmental organisations (NGOs).

Stakeholder engagement has been ongoing since then and has included meetings with individual stakeholders, public forums, and workshops with local agencies and officials. Public notifications have been published periodically throughout the regulatory processes to increase public awareness of Stronghold Guyana's activities. Engagement activities include the following:

- Public Consultation in October 2025, including social data collection.
- Public Disclosure, planned for Q1 2026 (after EIA is submitted to EPA).

Stronghold Guyana is continually engaged with government agencies that have oversight of the Eagle Mountain Project, such as the EPA, Ministry of Natural Resources (MNR), and GGMC, and with other local decision-making bodies.

5.2.3 ASSESSMENT OF IMPACTS

The IA comprises four sequential steps: impact prediction; impact evaluation; mitigation and enhancement; and residual impact evaluation. Once the full suite of impacts has been identified, the next step in the impact assessment stage is to define the characteristics of each impact.

Impacts can be defined in terms of type, extent, duration, scale, and frequency, as shown in Table 5.1 . In the case of type, the designations are defined universally (i.e., the same definitions apply to all resources/receptors and associated impacts). The definitions of these universally defined designations are provided in Table 5.2.

In the case of *extent* and *duration*, the designations themselves are universally consistent. However, the definitions for these designations will vary on a resource/receptor basis (e.g., the definition of what constitutes a "short term" duration for a noise-related impact may differ from that of a "short term" duration for a habitat-related impact).

In the case of *scale* and *frequency*, these characteristics are not assigned fixed designations, as they are typically numerical measurements (e.g., number of acres affected and number of times per day).

TABLE 5.1 DEFINITIONS AND DESIGNATIONS OF IMPACT CHARACTERISTICS

Characteristic	Definition	Designations
Type	A descriptor indicating the relationship of the impact to the Project (in terms of cause and effect).	Direct Indirect Induced
Extent	The "reach" of the impact (e.g., confined to a small area around the Project footprint or projected for several kilometres).	Local Regional International
Duration	The time period over which a resource/ receptor is affected.	Temporary Short-term Long-term Permanent
Scale	The size of the impact (e.g., the size of the area damaged or impacted and the fraction of a resource that is lost or affected).	*[no fixed designations; intended to be a numerical value]*
Frequency	A measure of the constancy or periodicity of the impact.	*[no fixed designations; intended to be a numerical value]*

Source: ERM, 2012

TABLE 5.2 DEFINITIONS OF DESIGNATIONS

Designations	Definition
Type	
Direct	Impacts that result from a direct interaction between the Project and a resource/receptor (e.g., between occupation of a plot of land and the habitats which are affected).
Indirect	Impacts that follow on from the direct interactions between the Project and its environment as a result of subsequent interactions within the environment (e.g., viability of a species population resulting from loss of part of a habitat as a result of the Project occupying a plot of land).
Induced	Impacts that result from other activities (which are not part of the Project) that happen as a consequence of the Project (e.g., influx of camp followers resulting from the importation of a large Project workforce).
Extent	
Local	Defined on a resource/receptor-specific basis
Regional	
International	
Duration	Defined on a resource/receptor-specific basis
Temporary	
Short-term	
Long-term	
Permanent	

Source: ERM, 2012

An additional characteristic that pertains only to unplanned events (e.g., traffic accident, accidental release of toxic gas, or community riot) is likelihood. The likelihood of an unplanned event occurring is designated using a qualitative (or semi-quantitative, where appropriate data are available) scale, as defined in Table 5.3.

TABLE 5.3 DEFINITIONS FOR LIKELIHOOD DESIGNATIONS

Likelihood	Definition
Unlikely	The event is unlikely but may occur at some time during normal operating conditions.
Possible	The event is likely to occur at some time during normal operating conditions.
Likely	The event will occur during normal operating conditions (i.e., it is essentially inevitable).

Source: ERM, 2012

Once the impact characteristics are understood, they are used (in a manner specific to the resource/receptor in question) to assign each impact a magnitude. Magnitude is a function of the following impact characteristics:

- Extent
- Duration
- Scale
- Frequency
- Likelihood (for unplanned events only).

Magnitude essentially describes the degree of change that the impact is likely to impart upon the resource/receptor. The magnitude designations are as follows:

- Positive
- Negligible
- Small
- Medium
- Large

As in the case of extent and duration, the magnitude designations themselves should be universally consistent across IA deliverables and across resources/receptors. However, the methodologies used to combine the various impact characteristics and conclude a magnitude designation will vary on a resource/receptor basis. This is because there are inherent differences between resources/receptors (and in many cases between different types of impacts on a given resource/receptor). The magnitude designations are therefore defined according to the resource/receptor (or the type of impact) in question.

5.2.4 IDENTIFICATION OF MITIGATION MEASURES

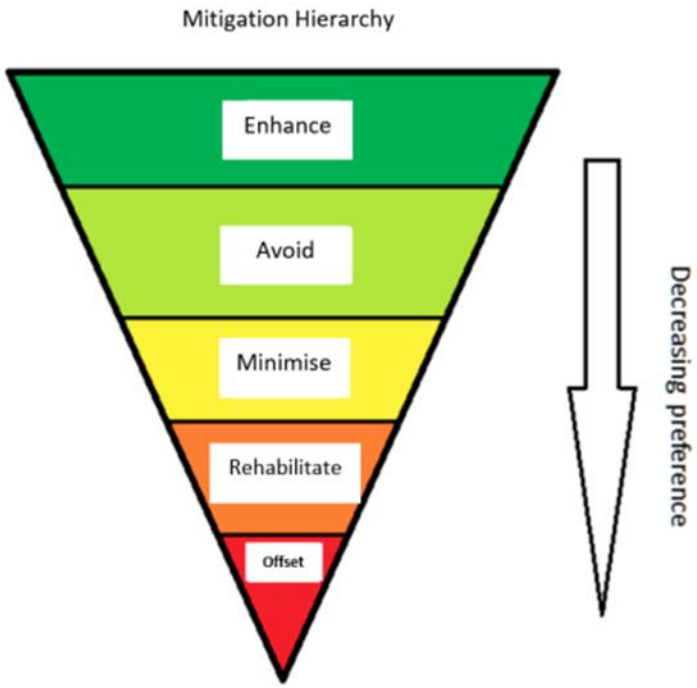
Once the significance of a given impact has been characterised using the above matrix, the next step is to evaluate what mitigation measures are warranted. In keeping with the mitigation hierarchy, which is now formally required under Guyana regulations, the priority in mitigation is to first apply mitigation measures to the source of the impact (i.e., to avoid or

reduce the magnitude of the impact from the associated Project activity), and then to address the resultant effect to the resource/receptor via abatement or compensatory measures or offsets (i.e., to reduce the significance of the effect once all reasonably practicable mitigation has been applied to reduce the impact magnitude).

Many mitigation or control measures will require a degree of management to ensure their success in reducing potential impacts on the residual level that is expected through the EIA process. Most of these residual outcomes are likely to require a degree of monitoring through project implementation to ensure that the mitigation management process is effective. It is these management and monitoring efforts that report to the ESMMP as part of the EIA process (refer to Volume 3: Chapter 13).

The mitigation identified will follow the IFC/WBG mitigation hierarchy shown in Figure 5.2.

FIGURE 5.2 IFC AND WBG MITIGATION HIERARCHY



5.2.5 SIGNIFICANCE CRITERIA

In addition to characterising the magnitude of impact, the other principal step necessary to assign significance for a given impact is to define the sensitivity/vulnerability/importance of the impacted resource/receptor. There are a range of factors to be considered when defining these characteristics, which may be physical, biological, cultural or human.

As in the case of magnitude, the sensitivity/vulnerability/importance designations themselves are universally consistent. However, the definitions of these designations will vary on a resource/receptor basis. The designations are as follows:

- Low
- Medium
- High

TABLE 5.4 IMPACT SIGNIFICANCE

		Sensitivity/Vulnerability/Importance of Resource/Receptor		
		Low	Medium	High
Magnitude of Impact	**Negligible**	Negligible	Negligible	Negligible
	Small	Negligible	Minor	Moderate
	Medium	Minor	Moderate	Major
	Large	Moderate	Major	Major

Source: ERM, 2012

The various impact significance ratings signify the following:

- An impact of **negligible significance** is one where a resource/receptor (including people) will essentially not be affected in any way by a particular activity, or the predicted effect is deemed to be 'imperceptible' or is indistinguishable from natural background variations.
- An impact of **minor significance** is one where a resource/receptor will experience a noticeable effect, but the impact magnitude is sufficiently small (with or without mitigation) and/or the resource/receptor is of low sensitivity/vulnerability/importance. In either case, the magnitude should be well within applicable standards.
- An impact of **moderate significance** has an impact magnitude that is within applicable standards but falls somewhere in the range from a threshold below which the impact is minor, up to a level that might be just short of breaching a legal limit.
- An impact of **major significance** is one where an accepted limit or standard may be exceeded, or large magnitude impacts occur to highly valued/sensitive resource/receptors.

5.3 DATA COLLECTION AND ANALYSIS

Each topic in the baseline section of this EIA report presents the data sources and methodology used for baseline analysis and impact assessment. Further information is provided in Volume 2 – Baselines.

6. STAKEHOLDER ENGAGEMENT

This chapter summarises the stakeholder engagement conducted for the Eagle Mountain Project, Guyana.

6.1 ADMINISTRATIVE FRAMEWORK

In Guyana, socioeconomic and stakeholder engagement components are considered in several laws, including the Environmental Protection Act. Additionally, Guyana is a signatory to a number of international and regional conventions and protocols aimed at addressing socioeconomic and stakeholder concerns. Stronghold Guyana proposes to conduct stakeholder engagement to comply with the spirit and intent of these laws and international agreements, including those outlined in the environmental authorisations for major project developments and other operational activities. In addition, the EPA has published a manual on meaningful stakeholder engagement for projects requiring environmental authorisation (2022), which outlines expectations regarding effective public participation for projects like the Eagle Mountain Project in Guyana.

6.2 DATA COLLECTION AND METHODOLOGY

Stakeholders are identified at the beginning of new activities and/or Project phases. Once identified, stakeholders are assessed based on their anticipated degree and topics of interest, as well as their role in engagement processes, which may affect Project activities. Stakeholder information is recorded in a stakeholder engagement register, which is an evergreen document, and additional stakeholders are added as they are identified.

The Stakeholder Engagement Plan (SEP) in Appendix D and this chapter includes methods to facilitate stakeholder communication and dissemination of public information. One method is information provision, which offers stakeholders information to support their understanding of proposed Project activities. Another method is consultation, which supports dialogue and active receipt of stakeholder feedback/input based on the information provided, and incorporation of input. These methods capture opinions, concerns, and knowledge on how Project activities may interact with a stakeholder’s natural and social environment, allowing Stronghold Guyana to gather information concerning topics that are important to its stakeholders. These activities provide stakeholders with an opportunity to ensure their comments and opinions are heard and concerns addressed.

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may interact with a stakeholder's natural and social environment, allowing Stronghold Guyana to gather information concerning topics that are important to its stakeholders. These activities provide stakeholders with an opportunity to ensure their comments and opinions are heard and concerns addressed.

6.3 CONSULTATION AND ENGAGEMENT APPROACH

6.3.1 AREA OF INFLUENCE

The Social Area of Influence (Social AoI) for the Eagle Mountain Project is divided into areas of Direct Influence and Indirect Influence, depending on the type of impact expected from Project activities. This is constantly evolving and will be reviewed and updated on an annual basis, or more frequently if there are significant changes to the Project (Figure 6.1).

6.3.2 STAKEHOLDER IDENTIFICATION

Stronghold Guyana identifies and engages stakeholders and maintains a list of directly and indirectly affected stakeholders across national, regional, and local levels within government, business, civil society, and local communities. This is a collaborative and iterative process drawing from experienced practitioners with knowledge of international leading practice, national requirements, and local demographics (Figure 6.1).

6.3.3 STAKEHOLDER ANALYSIS

Stronghold Guyana also analyses these stakeholders to assess both their ability to influence the Project, and their interest in (or ability to be impacted by) the Project. This enables Stronghold Guyana to prioritise and tailor engagement to distinct stakeholder groups.

FIGURE 6.1 EAGLE MOUNTAIN SOCIAL AREA OF INFLUENCE

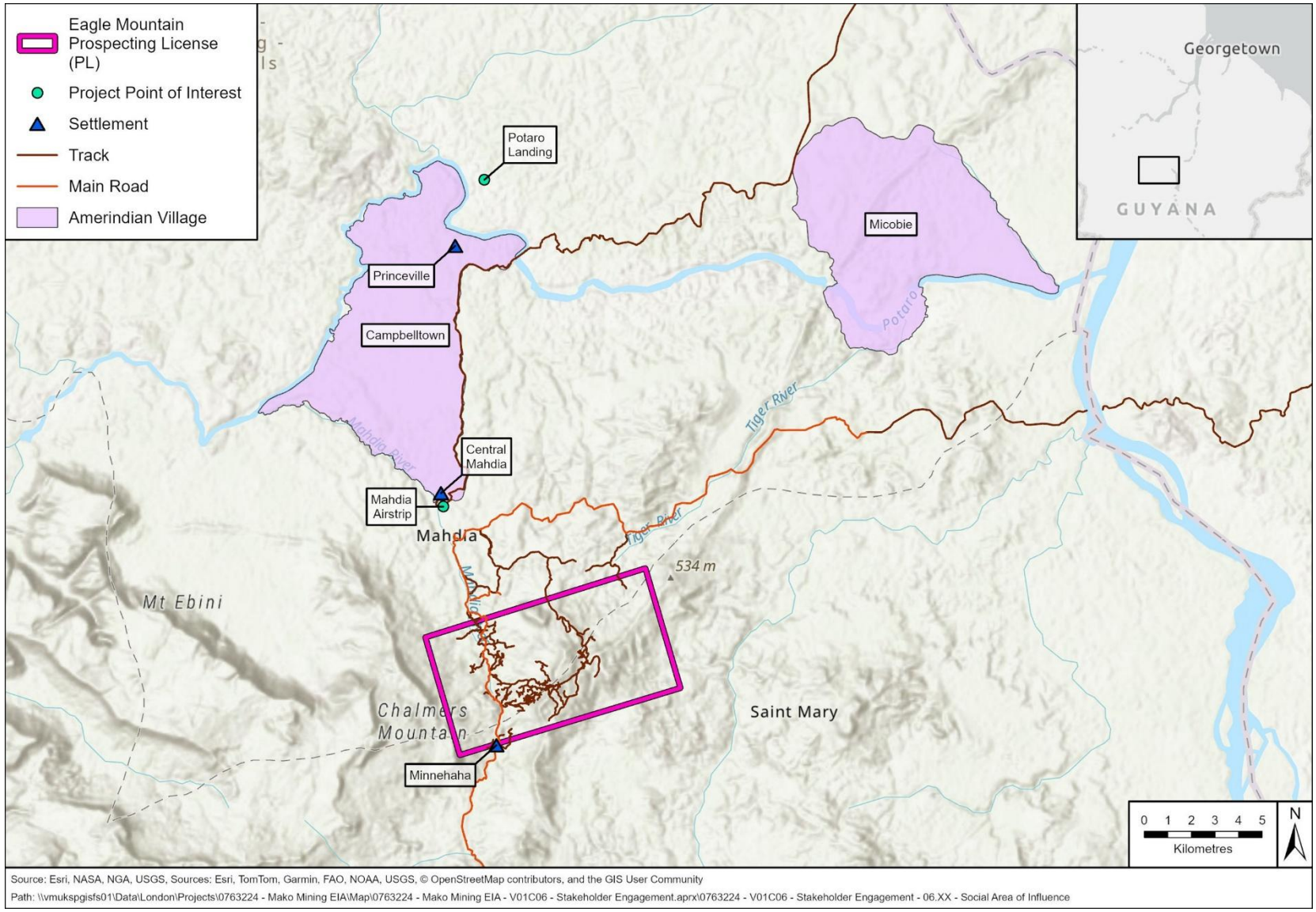


TABLE 6.1 STAKEHOLDER LIST

Government	Civil Society	Private Sector	Communities
• Guyana Geology & Mines Commission (GGMC) • Guyana Forestry Association (GFC) • Guyana Lands and Surveys Commission (GLSC) • Ministry of Natural Resources (MNR) • Ministry of Amerindian Affairs (MoAA) • Environmental Protection Agency (EPA) Guyana • Guyana Gold Board (GGB) • Guyana Civil Aviation Authority (GCAA) • Ministry of Housing and Water (MoHW) • Guyana Energy Agency (GEA) • Ministry of Health (MOH) • Guyana Police Force (GPF) • Regional Democratic Councils (RDC) • Neighbourhood Democratic Councils (NDC) • Town Councils (Mahdia) • Guyana Low Carbon Development Strategy • Indigenous People's Commission (IPC) • Government Institutes • Guyana Water Incorporated (GWI)	• Amerindian Peoples' Association (APA) • Guyana Gold and Diamond Miners Association (GGDMA) • Guyana Women Miner's Association (GWMA) • World Wildlife Fund (WWF) • Wildlife Conservation Society (WCS) • Conservation International (CI) • Flora and Fauna International (FFI) • Artisanal Gold Council (AGC) • University of Guyana • Small Miners Association • Food for the Poor Guyana Inc. • Rain Forest Alliance • The Initiative for Responsible Mining Assurance (IRMA) • Minamata Convention on Mercury	• Internal Stronghold Guyana stakeholders: Board of Directors, leadership, employees • Companies that operate within Mahdia (Forestry, other mining companies, etc.) • Other transport operators, Project suppliers, and/or Stronghold Guyana subcontractors • Other project developers • Georgetown Chamber of Commerce & Industry • Private Sector Commission of Guyana Ltd. • Digicel • Media: local newspapers, radio stations, social media • Financial and Strategic Investors • International industry initiatives e.g. International Council on Mining and Metals (ICMM), e.g., Mining Association of Canada (MAC), World Gold Council (WGC)	• Mahdia Town • Amerindian communities: • Campbelltown • Micobie • Concession and/or title holders • Pork-knockers, dredging and shaft operators • Vulnerable groups, including women, youth, minority communities, Indigenous and Amerindian peoples, migrant workers, subsistence farmers, and fisherfolks • Labor-sending communities e.g. Mahdia, Georgetown, etc.

TABLE 6.2 STAKEHOLDER PRIORITISATION

Level of Influence

Highly Responsive *Engage proactively and monitor opinions and level of satisfaction/concern*	**Actively Engaged** *Engage frequently and look for opportunities to collaborate, partner, and create shared value*
Government • Guyana Gold Board • Ministry of Local Government • Ministry of Public Utilities and Aviation • Guyana Water Incorporated (GWI) **Civil Society** • Amerindian People's Association	**Government** • Guyana Geology & Mines Commission • Guyana Forestry Commission • Guyana Lands & Surveys Commission • Environmental Protection Agency **Civil Society** • University of Guyana **Communities** • Council and Village leaders/Toshaos • Surrounding towns and communities
Government • National Toshaos Council • Trade Commissioner Service and Export Development Canada **Civil Society** • World Wildlife Fund • Wildlife Conservation Society • Conservation International • Flora and Fauna International • Artisanal Gold Council **Communities** • Pork-knockers, dredging & shaft operators **Private Sector** • Mekdeci Machinery & Construction • Digicel • International industry initiatives • Media (print, radio, social) • Other companies	**Government** • Guyana Police Force • Ministry of Health • Ministry of Natural Resources • Ministry of Labor • Ministry of Amerindian Affairs • Regional Democratic Council • Bartica Town Council • Neighbourhood Democratic Council **Civil Society** • Guyana Gold & Diamond Miners Association • Guyana Women Miners Organisation • Small Miners Association **Communities** • Concession/title holders
Monitor *Monitor opinions; keep informed on relevant topics*	**Keep Informed** *Engage regularly; keep involved and consult on topics of interest to each group*

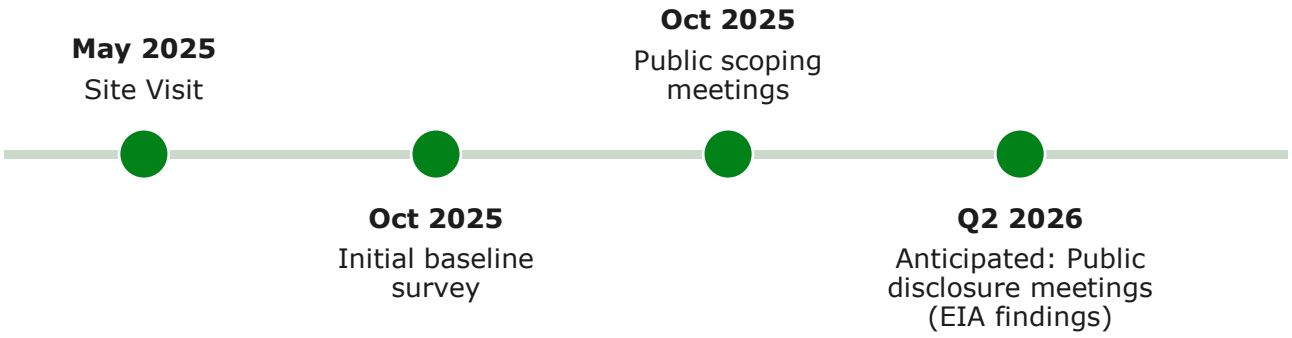
Level of Impact

6.4 INFORMAL AND FORMAL ENGAGEMENT UNDERTAKEN

6.4.1 ENGAGEMENT UNDERTAKEN BY THE COMPANY

Stakeholder engagement is ongoing throughout Stronghold Guyana's activities in Guyana and will continue through the environmental authorisation application and corresponding EIA development processes, as well as through the full life cycle of the Project (Figure 6.2).

FIGURE 6.2 ENGAGEMENT TIMELINE



Stakeholder engagement has been ongoing during the EIA, and has included meetings with individual stakeholders, public forums, and workshops with local agencies and officials. Public notifications have been published at various points in time throughout the regulatory processes to increase public awareness of Stronghold Guyana's activities.

Continuous engagements with government agencies that have oversight of the Project, such as the EPA, Ministry of Natural Resources (MNR), and GGMC, as well as other local decision-making bodies, are taking place throughout Stronghold Guyana's operations.

As part of environmental authorisation application processes, stakeholders have had the opportunity through a public review period to provide input on the EPA's determination as to whether an EIA was required, as well as input into priority topics to cover in the EIA. For the EIA processes conducted to date, Stronghold Guyana has held face-to-face sector agency and public scoping consultation meetings to provide Project-specific information prior to the finalisation of a Terms of Reference (ToRs). Stakeholders have had the opportunity through these meetings to provide input into the issues and concerns they wished to be considered within the EIA.

6.4.2 ENGAGEMENT DURING THE PROJECT

6.4.2.1 PUBLIC SCOPING MEETINGS

As part of the EPA process to determine the ToRs for the EIA, the EPA hosted three public scoping meetings in October 2025, also attended by Stronghold Guyana and ERM (Table 6.1).

TABLE 6.1 SCOPING MEETINGS

Location	Date	Number of Participants	Participants
Georgetown	07/10/2025	16	EPA and government agencies
Mahdia	03/10/2025	32	Local residents, local miners, government representatives, and local businesses

Location	Date	Number of Participants	Participants
Campbelltown	04/10/2025	42	Local residents, local miners, government representatives, and local businesses. Included residents and Toshao of Micobie

6.4.2.2 SOCIAL DATA COLLECTION

In October 2025, social baseline surveys were conducted, and stakeholders were interviewed in the Social AoI (Table 6.2).

TABLE 6.2 STAKEHOLDERS ENGAGED IN SOCIAL BASELINE SURVEY

Location	Dates	Number of Interviews	Interviewees
Mahdia	3 & 7 October 2025	26	Mayor, Deputy Regional Executive Officer, police officers, fire officer, schoolteachers, GGMC officer, business owners, and resident households
Campbelltown	4 October 2025	7	Toshao, resident households, health worker
Princeville	5 October 2025	2	Village council member, resident households
Micobie	5 October 2025	3	Toshao, resident households, schoolteachers, health workers
Minnehaha	6 October 2025	6	Resident households, farmers, shopkeepers
Total		**44**	

6.5 STAKEHOLDER FEEDBACK RECEIVED AND INCORPORATED

Input received from the consolidated baseline surveys has been collected, anonymised, and organised by stakeholder group (Table 6.3).

TABLE 6.3 SUMMARY OF FEEDBACK RECEIVED DURING BASELINE SURVEYS

Category / Topic	Question / Comment	Response	Section Reference for EIA
Artisanal Mining	You have indicated that a lot of the gold that is found in the area is particularly fine, this is a challenge for ASM as well. Are there systems in place to assist small scale miners to assist processing of these particles?	In other countries, including Nicaragua where we operate a mine, there are artisanal miners in the surrounding areas and some sign contracts/agreements where they will send their mined material to the plant for recovery, and they can receive some profits. This is not within the scope of the current plan Eagle Mountain, but could potentially be something to look into in the future, e.g. providing technology assistance. For their safety and the environment baseline, will need to manage this in the EMPL.	N/A
Artisanal Mining / Community Benefit	If you are not going to be using the lands, can the relevant authority have these lands distributed to small scale miners in Region 8? Will it benefit the community?	Stronghold Guyana is currently working to establish environmental baseline conditions, which will inform the EIA, and secure environmental permits. To maintain robust environmental baseline conditions and to effectively manage health and safety considerations, small-scale mining activity would not be allowed within the EMPL. This is in line with GGMC procedures for EMPLs. Stronghold Guyana appreciate the community's patience to allow works to go ahead as the project is expected to create job opportunities for community members once the Project is permitted.	Volume 2: Chapter 11 Socioeconomic Baseline, Section 11.3.3
Artisanal Mining / Social Conflict	There are surrounding smaller claims around the camp and historically there have been incidences dealing with raids inside the EMPL. How do you plan to manage this type of social conflict? For example, Amerindian communities would have done ancestral mining/pork-knocking in the area. How would you deal with that in the wake of a full operation? Are small miners are saved and exempted from your operations? What types of measures will be employed to address these challenges when they occur?	The bulk of mining activities have taken place to the north of the EMPL. The main resource area has total resources of approximately 1.8 million ounces gold. There have been some artisanal pits [within the EMPL] however the mineral is mostly powdered gold which is difficult for small scale/artisanal miners to mine. As such, Stronghold Guyana has not experienced notable conflict with artisanal miners within the EMPL. There is a medium-scale concession within the EMPL to the east, which Stronghold Guyana will not have any infrastructure in this area, and some small-scale concessions on the boundaries [to the south]. Where ASM miners are present, we ask them to mine within their claims. Once the mine is operational there will be a lot of activity in the EMPL on the western side, for example haul trucks, so there is a need to manage public safety and protect the environment within the EMPL.	Volume 1: Chapter 2 Project Description, Section 2.4 Volume 2: Chapter 11 Socioeconomic Baseline, Section 11.3.3.2

Category / Topic	Question / Comment	Response	Section Reference for EIA
Biodiversity	Will you include a species list form as part of the appendix for biodiversity related assessment?	EPA to provide this and we can include this in the EIA. ERM to follow up with Nehru from Biodiversity department for this. ERM will also provide from our baseline surveys.	Volume 2: Chapter 10 Biological Resources Baseline, Section 10.3 and 10.4
Biodiversity	Are there any consideration of offsets for biodiversity within the scope of the project?	Stronghold Guyana are aware of the set aside. Most mining activities will be focused on the western side of the EMPL, therefore we will review the eastern section of the EMPL as a high value 'offset' to put aside and protect.	Volume 3: Chapter 13 ESMMP, Section 13.1.6.3
Biodiversity	Does Stronghold Guyana have any considerations for biodiversity 'offsets' within your projects based on the potential impacts? Will some type of 'offset' be incorporated? Stronghold Guyana should also consider contributions (donations) to current protected areas or identification of off-site locations that can be utilised.	Stronghold Guyana are aware of the biodiversity strategy for a set-aside to accommodate the disturbed area. The Project is focused on the western side of the EMPL so there will be opportunity for high value set asides on the eastern side of the EMPL which is rich in biodiversity.	Volume 3: Chapter 13 ESMMP, Section 13.1.6.3
Biodiversity Impacts	How will the flora and fauna at Eagle Mountain be impacted by the Project?	Biodiversity studies are taking place to determine the potential impacts, and once we analyse the results, we will disclose the findings to the community. There have been substantial environmental and biodiversity studies completed at the site (in 2013 and 2021) with studies ongoing. The results will be discussed following the EIA during the disclosure meetings.	Volume 3: Chapter 8 Biological Resources Impact Assessment
Blasting	Will you be blasting during operations? How would that affect the community?	In the first 5 years, the mining will focus on a higher proportion of soft rock saprolite layer and then we will move onto a higher proportion of hard rock deposits which will require more blasting. However, there is a need for a minor amount of blasting in the first years of operation to reach the saprolite. All blasting activities will be controlled. Further details on blasting will be provided in the disclosure meetings; however, we do not	Volume 1: Chapter 2 Project Description, Section 2.5.3.1

Category / Topic	Question / Comment	Response	Section Reference for EIA
		anticipate it to have an impact on the community as the project is 8 km away from Mahdia.	
Community Benefit	Do you have any plans for community development? What are your plans to give back to the community?	The project could create hundreds of jobs over more than a decade of operation. While employment needs are not yet confirmed, this is part of an ongoing process. The aim is to work with the community, following the collaborative approach Stronghold Guyana has used in previous projects (e.g. Nicaragua).	Volume 1: Chapter 6 Stakeholder Engagement Plan, Section 6.7 Volume 3: Chapter 13 ESMMP, Section 13.1.8
Community Benefits	Large companies have come to the region to do exploration and looking for relationships with the communities. What benefits will be provided to the community? Could you touch on how the company will maintain good relations with the community?	Stronghold Guyana will engage with the community to develop that relationship and ensure local people benefit from the project. Stronghold Guyana is currently looking into establishing a Community Liaison position to support with this.	Volume 1: Chapter 6 Stakeholder Engagement Plan, Section 6.7 Volume 3: Chapter 13 ESMMP, Section 13.1.8
Community Benefits / Employment	What direct and indirect benefits will the community receive from the project? Will there be employment and what percentage is anticipated?	Community benefits will include job opportunities and local procurement of goods and services. Stronghold Guyana will be looking for high quality partners to work with. Once the permitting process has been completed, these plans for the community, employment, and procurement will become clearer.	Volume 1: Chapter 6 Stakeholder Engagement Plan, Section 6.7 Volume 3: Chapter 13 ESMMP, Section 13.1.8
Community Development	Will contributions be made to the school for example Acs/fans and other materials/facilities to develop the school and students?	Stronghold Guyana want communities to benefit from the project and will be reviewing local needs and opportunities within the community. Noted that school would benefit from AC units.	Volume 3: Chapter 13 ESMMP, Section 13.1.8

Category / Topic	Question / Comment	Response	Section Reference for EIA
Community Engagement	As part of your general operations, do you have plans to be a part of the community's social and cultural development/activities?	We are currently exploring hiring a Community Liaison officer to work with the community. Many positions will become available and open to the community once the project has been permitted.	
Community Engagement	The residents of Mahdia would like to be frequently informed of what is going on with the project and be involved. We want Stronghold Guyana to set up a system to notify the community, including about the disclosure meetings.	Noted. Stronghold Guyana will hold similar sessions for disclosure and will notify based on contact info given in the registration sheets.	Volume 1: Chapter 6 Stakeholder Engagement Plan, Section 6.7 Volume 3: Chapter 13 ESMMP, Section 13.1.8
Community Engagement / Employment	Is there a person from Region 8 that would be making these opportunities known to the residents of Mahdia? Who on the ground in Mahdia would be making representation for employment opportunities? (Concern of outsiders/strangers)	There is no information to share on hiring at this time, as Stronghold Guyana are still in the process of determining the details for employment needs. Stronghold Guyana are looking into a Community Liaison Officer and will provide more information on opportunities and training as soon as it becomes available.	Volume 1: Chapter 6 Stakeholder Engagement Plan, Section 6.7 Volume 3: Chapter 13 ESMMP, Section 13.1.8
Community Impacts	Will mining in the EMPL affect the community in any way? I know that studies are being done to promote environmentally friendly mining in accordance with the laws of Guyana, but how will the project impact the community in any way?	The EIA will evaluate and determine the environmental and social impacts in the EMPL. This includes conducting baseline data reviews to assess the impacts. Following the study, there will be disclosure meetings in Mahdia to discuss the results of the EIA with the community.	Volume 3: Chapter 9 Socioeconomic Impact Assessment
Community Livelihood	Will we be able to still pass through the Eagle Mountain to hunt and fish, or will that area be secured preventing Indigenous people from hunting, fishing or gathering traditional medicine?	The public road will remain accessible. Access within the Project area will need to be restricted for health and safety and environmental reasons. We will take into consideration how the community uses the land.	Volume 3: Chapter 13 ESMMP, Section 13.1.8

Category / Topic	Question / Comment	Response	Section Reference for EIA
Council Representation	Representation from RDC and Town are missing from the Scoping meetings. Were this people invited?	Invitations were sent to the RDC and there is a member of the RDC in attendance, as well as the Mahdia Madam Mayor.	Volume 1: Chapter 6 Stakeholder Engagement Plan, Section 6.4
Cyanide Processing	Will there be any chemicals like cyanide being used to trap the gold, more than the standard procedure that small miners use? Any open cyanide ponds? Are you 100% sure that there will be no cyanide at any stage of the project? Will the people of Mahdia be assured that there will be no cyanide spill/ leakage during the mining operations?	The mining process involves grinding the ore into a slurry, which is then transferred into contained steel tanks where a very dilute cyanide solution is added to dissolve the gold. This cyanide leaching method is a standard practice in mining. The facility includes a detoxification circuit designed to treat the cyanide before discharge (to the TSF). After leaching and detoxification, the solution will be directed to an engineered tailings pond, where further neutralisation of cyanide will occur. Specialist reports will provide detailed assessments of this process. However, based on current expectations, the final discharge is anticipated to be safe and in line with national standards.	Volume 1: Chapter 2 Project Description, Section 2.5.4.
Education	Will the project have any opportunities to connect learning? Will there be any opportunity for Stronghold Guyana to come into schools to discuss the project and provide career guidance?	Stronghold Guyana are happy to come into the school to discuss the project and careers at any time. Stronghold Guyana will be in touch to discuss further.	Volume 3: Chapter 13 ESMMP, Section 13.1.8
EIA Process	Reassurance to the community about the intent of the meeting: to understand the impacts and the mitigation measures that will be in place to prevent or reduce significant impacts. EPA has the authority to approve or discontinue the operations if there are impacts to the environment/community.	Noted.	Volume 1: Chapter 5 EIA Process, Approach, and Methodology
EIA Process	I would like to emphasise that a permit has not been granted. What Stronghold Guyana are currently doing is exploration	Noted.	

Category / Topic	Question / Comment	Response	Section Reference for EIA
	activities and environmental studies by the consultants, ERM.		
Emergency Response	If preventative measures fail and a spill event occurs, what procedures or system will be put in place to notify the community in a timely manner?	A comprehensive Emergency Response Plan will be required as part of the EIA. It forms part of the completion of the EIA process. In this document, Stronghold Guyana will detail emergency response procedures.	Volume 4: Appendix A Emergency Preparedness and Response Plan
Employment	Is there a specific amount of workers you are targeting from Mahdia, Campbelltown and other areas in Region 8? Is there a percentage?	Stronghold Guyana are currently reviewing the details. At this time, we can say that there will be hundreds of jobs, and our preference is to hire locals and train locals through a range of skills. However, at this point we don't have a specific number - that will come as we work through the process.	Volume 1: Chapter 2 Project Description, Section 2.5.12
Employment / Training	What job opportunities will be available to Mahdia community once the project is operational? Will there be training opportunities? What privileges would Mahdia community receive?	We have a similar situation in our mining operation in Nicaragua, where a community is located close to the operation. We work closely with that community to hire locally, and provide structured training programs. Training and hiring locally will be a priority. Stronghold Guyana are identifying individuals interested in training and will deliver structured programmes to support skill development. We note that some specialised/highly skilled roles may need to be filled from outside the area. It is our philosophy to work closely with the local communities and do as much training as we can to employ a high percentage of locals.	Volume 3: Chapter 13 ESMMP, Section 13.1.8
Environmental Impact	Question to EPA on environmental impact of the project.	*EPA, Colis Primo* - The purpose of the scoping meeting is for the developer to present the proposed project to the community. At this stage, the EPA does not yet know the potential environmental impacts, as these will be identified through the EIA. Questions and comments raised during the scoping meeting will help shape the scope of the EIA, guiding what aspects should be assessed. The EIA will then determine the measures the developer must take to mitigate any identified impacts. Prior to recommending an EIA, the EPA would have received an application, conducted a site visit, and evaluated the need for further environmental assessment.	N/A

Category / Topic	Question / Comment	Response	Section Reference for EIA
Indigenous Peoples / Ecosystem Services	Are there Indigenous Peoples in the area, and do they utilise any other natural resources in the area? Will you be assessing this in your initial or future studies? If so, do you foresee any issues with them accessing resources within the zones?	ERM have been conducting social surveys in the various communities and indigenous groups to understand how they use the area. The results of these surveys will be included in the EIA. This was a concern raised in the Campbelltown scoping meeting about having access to other resources and this has been noted. People coming into the EMPL for this reason does not happen often. However, the EIA will seek to understand how they use the land. Communities also mentioned hunting, fishing, and harvesting which will be captured in the report.	Volume 2: Chapter 11 Socioeconomic Baseline, Section 11.6 and 11.7
Landscape and Visual	Will there be visual impacts to Eagle Mountain? Thinking about the beautiful Eagle Mountain, I hope the project would not destroy the beauty of the mountain.	No. As mining will be on lower slopes, the top of the ridge will not be touched. The cliff face that you see, Stronghold Guyana will not be mining so there will not be an impact to the upper ridgeline.	Volume 3: Chapter 5 Landscape and Visual Impact Assessment
Landscape and Visual / Cultural Significance	These mountains are important landmarks to Campbelltown and Mahdia and are special mountains for identification of our community. How will this be impacted?	There is no planned infrastructure to the east of the EMPL. Stronghold Guyana will be conducting a landscape and visual assessment as part of the EIA process.	Volume 3: Chapter 5 Landscape and Visual Impact Assessment
Logging / Community Benefit	With the mining concession, Stronghold Guyana have rights to the mineral but not the forest/trees in the area. What is going to happen to the trees/logs coming out of the Eagle Mountain? Would it be used by the company or given to the communities? I recommend that they be contributed to the community and not go to waste.	Stronghold Guyana have started to look into the re-use of logs from the site and what can be done. Stronghold Guyana will provide further information once it becomes available and will engage in further discussions with communities.	Section 6.7 (to be discused with communities in the future)
Mercury Contamination	For background mercury findings, what are the proposed systems for management of mercury contamination? How do you propose to manage the mercury found within your project area? From the studies done, what has been	Stronghold Guyana have done sampling across the EMPL for mercury. We have sampled soils in the EMPL to get a detailed analysis of the concentration of mercury. In historic mining areas, mercury was observed. If some miners are using mercury, Stronghold Guyana tested tailings piles. Stronghold Guyana will	Volume 2: Chapter 7 Hydrology and Surface Water Baseline, Section 7.2.5 / Chapter 8 Hydrogeology and

Category / Topic	Question / Comment	Response	Section Reference for EIA
	found in terms of significance for mercury presence?	reflect this in the baseline studies and the plan for managing mercury will be included in the mitigation measures in the EIA.	Groundwater, Section 8.6 Volume 3: Chapter 13 ESMMP, Section 13.1.3
Mining Process	Will there be any underground/tunnel mining at any point in time? Will there be any tunnel line?	No, there will only be open pits and the deposits are shallow so there is no requirement for tunnelling.	Volume 2: Chapter 2 Project Description, Section 2.5
Mining Process	You mentioned tailings ponds and leaching. Would leaching take place in tanks or ponds?	Leeching will take place in contained, sealed tanks.	Volume 2: Chapter 2 Project Description, Section 2.5.4
Mining Process	How deep the mining operations will go at Eagle Mountain?	The mining activities will be on lower slopes. There are a series of shallow pits down the slope and to depths averaging approximately 50 m.	Volume 2: Chapter 2 Project Description, Section 2.5.3.1
Mining Process / Environmental and Social Impacts	Would there be any special types of chemicals used in the mining process and would it affect the community and environment in any way?	The project will utilise standard mining equipment and modern extraction techniques. The process will involve the use of reagents, including cyanide, to separate the gold from the ore. Diluted cyanide is widely used in gold mining operations globally and, in this case, will be safely contained within steel tanks surrounded by concrete berms to provide further protections. This method will be formally proposed to the EPA and assessed as part of the EIA. Due to the fine nature of the gold particles, gravity-based methods commonly used by artisanal miners are not suitable.	Volume 2: Chapter 2 Project Description, Section 2.5.4

Category / Topic	Question / Comment	Response	Section Reference for EIA
Monitoring	After the processing plant is set up, will consistent testing be done? Will this be done in-house or third party?	Stronghold Guyana is in discussion with ERM about ongoing water quality sampling around the tailings areas and waste dumps. More information will be provided on working jointly with other groups as the project develops. We will make a note of your question and get back to you.	Volume 3: Chapter 13 ESMMP, Section 13.1.3
Procurement	Is there an office to get in contact with Stronghold Guyana to discuss contracts (procurement)	Once the EIA permitting process is completed, Stronghold Guyana will be able to establish an office to receive these queries. This is the start of the process in which we will work with the community to collaborate and build out contact points for jobs discussions. There is a contact number and details on handouts for people to reach out in the meantime. You can WhatsApp and email at any time.	Volume 1: Chapter 6 Stakeholder Engagement Plan, Section 6.7
Procurement	Will the businesspeople of Mahdia be benefitting from the project or will Stronghold Guyana be bringing everything from Georgetown?	Stronghold Guyana will evaluate opportunities to source local goods and services for the project. There will be procurement of goods and services with focus on high quality partners for the project.	Volume 3: Chapter 13 ESMMP, Section 13.1.8
Project Land	What will happen to the flat below the mountain when you begin mining? Would this land be covered?	The Eagle Mountain project will be mining deposits below the mountain and placing mine infrastructure in the flats. The EMPL is currently undergoing the permitting process, and as such access to the project area will need to be restricted for health, safety and environmental reasons. Resources in the flat areas will be mined, and other areas will be used for infrastructure placement.	Volume 2: Chapter 2 Project Description, Section 2.5
Reclamation	What type of reclamation will be done and how? Would it be an ongoing effort?	A detailed reclamation plan will be included within the EIA process as well as closure plans. Stronghold Guyana plans for a phased reclamation, using soils to revegetate the area.	Volume 4: Appendix B Conceptual Rehabilitation and Closure Plan
Reclamation	Does reclamation of the area form a part of the study? For context, would you have done any restoration plans in any of your other mining projects in other countries after you closed operations?	Yes, the plans for reclamation are being developed with GRE (Project's water specialists) and will be part of the EIA report.	Volume 4: Appendix B Conceptual Rehabilitation and Closure Plan

Category / Topic	Question / Comment	Response	Section Reference for EIA
Reclamation	Has Stronghold Guyana conducted any restoration work at any of your other projects in other countries?	No, Stronghold Guyana has not yet shut down any mine projects (in Nicaragua and US), as they are still in operation. Operations at the mine in Arizona started five years ago and is still operating. Stronghold Guyana will consult with subject matter experts and industry specialists to develop a robust and sustainable closure plan for these projects.	Volume 4: Appendix B Conceptual Rehabilitation and Closure Plan
Reclamation	In your plans for reclamation in stages, assuming you are working from east to west, as you go along, would you start the reclamation/restoration process as you finish with a specific area?	Generally, there is an east-to-west series of pits so there may be opportunities for progressive reclamation as we go through development.	Volume 4: Appendix B Conceptual Rehabilitation and Closure Plan
Recreation	Concerning the school, we need things like a football field, play parks and facilities to build character and create opportunities for recreation for children.	Noted. Stronghold Guyana will look into opportunities to benefit the community.	Volume 4: Appendix D Stakeholder Engagement Plan
Road Access	What would be the outcome of Salbora road [Old Potaro-Konawaruk Road] up to the mountain? Would small scale miners be able to access the area to do mining?	Eagle Mountain EMPL is currently undergoing the permitting process, and the regulator (GGMC) does not allow small-scale operations within the permitted area. Furthermore, for Stronghold Guyana, access to the EMPL will need to be restricted to effectively manage both health and safety protocols and environmental baseline conditions.	Volume 3: Chapter 13 ESMMP, Section 13.1.8 and 13.1.9
Road Access	Will there be any diversion of the main road from Mahdia to the Project and Minnehaha at any point in time? Because that main road is passing through Stronghold Guyana EMPL.	Stronghold Guyana is aware of the current use of the road through the EMPL and the associated safety and traffic concerns. A traffic assessment is underway to identify appropriate mitigation measures and evaluate impacts.	Volume 2: Chapter 11 Socioeconomic Baseline, Section 11.5.3 Volume 3: Chapter 9 Socioeconomic Impact Assessment

Category / Topic	Question / Comment	Response	Section Reference for EIA
Road Access	Will the community still be able to use the road going through Eagle Mountain project?	The mine pits are to the east of the road, and the project infrastructure is largely to the west, therefore Stronghold Guyana will need to cross the main access road running through the EMPL. Stronghold Guyana is aware that communities use this road and are assessing the options and how to mitigate impacts.	Volume 2: Chapter 2 Project Description, Section 2.5.11
Road Access / Maintenance	In regard to the road, as a community, are we going to be benefitting from roads/ bridges, such as through maintenance?	Stronghold Guyana will need to upgrade the bridges to allow heavy equipment to cross. Roads/bridges will need to be maintained throughout the project and Stronghold Guyana will work with the Ministry of Public Works.	Volume 2: Chapter 2 Project Description, Section 2.5.11 Volume 3: Chapter 13 ESMMP, Section 13.1.8
Road Access / Public Safety	A major road which is frequently traversed leads to other ASM sites like Minnehaha, Konawaruk, and they should be accessible to the public. Will you set up check points? How will it affect use of the road and impacts for public safety. How would your operations ensure access with managing public safety and access? People on the ground are concerned about what will happen to them if the large-scale operation becomes up and running. What will happen once mine is in full operation?	Stronghold Guyana have been conducting baseline traffic assessments for the last 2 years to monitor the use of the main road through the EMPL daily and provide weekly/monthly averages. Stronghold Guyana is aware of the situation and concerns around access to the public road and will incorporate into the assessment on how we will manage the use of the road. Stronghold Guyana is also currently looking into mitigation measures for the road.	Volume 2: Chapter 11 Socioeconomic Baseline, Section 11.5.3 Volume 3: Chapter 9 Socioeconomic Impact Assessment
Traditional Medicines / Cultural Significance	We would also like to have the opportunity to harvest the plants used for traditional medicine (by Indigenous peoples) at Eagle Mountain before they go to waste.	Stronghold Guyana will take this into consideration and engage in further discussions with communities.	Volume 3: Chapter 13 ESMMP, Section 13.1.8

Category / Topic	Question / Comment	Response	Section Reference for EIA
Training Provided	We recognise that Stronghold Guyana will provide jobs to communities, but locals would lack the skills. Will there be training provided for local people?	Stronghold Guyana has a strong track record of working with communities. Our mine in Nicaragua, for example, is located close to a community and the current mining contractor is a local person who has been trained for the job. There will be jobs available, from labourer to high skilled, and the objective is to train locals to fill these jobs, being conscious of the time required for training and upskilling.	Volume 3: Chapter 13 ESMMP, Section 13.1.8 Volume 4: Appendix D Stakeholder Engagement Plan
Waste Treatment	What about effluent? Will this also be treated at the Waste Treatment plant?	There will be other wastewater treatment components for camps e.g. sewerage which will use standard/best practices.	Volume 2: Chapter 2 Project Description, Section 2.5.9.12
Wastewater Treatment	Could you also share information on wastewater treatment for the project? How is waste handled and treated?	The water study is being conducted by hydrogeology/surface water subject matter experts and feeds into the water balance study. There are two wastewater treatments - effluent treatment and processing plant. The processing plant will use various reagents and will include dilute cyanide solution stored in steel tanks (typical for gold mines) to treat the ores. The detoxification circuit will treat the solution and destroy the cyanide before it leaves the mill. Once the slurry is treated and discharged from the mill, it is directed to an engineered tailing storage facility. Treatment of sewage would use standard/best practices.	Volume 2: Chapter 2 Project Description, Section 2.5.4
Water Quality	What are the effects this Project will have on the quality of water from Salbora?	Placement of infrastructure is designed to avoid any impacts to the Mahdia water supply and will avoid the watershed. Stronghold Guyana will also work to manage impacts to water supply to Mahdia including quality and quantity. *EPA, Colis Primo* - the purpose of the EIA is to understand the environment, what will be impacted, and what measures can be put in place to mitigate any impacts. The intent is to understand the project location and any impacts on the physical and	Volume 3: Chapter 6 Hydrology and Surface Water; Chapter 7 Hydrogeology and Groundwater

Category / Topic	Question / Comment	Response	Section Reference for EIA
		biological environments. The goal is to avoid any impacts to the watershed.	
Water Quality	Could you share the findings of the assessments that has been done on water quality in the area with GWI (prior to EIA submission)?	Stronghold Guyana are first developing the terms of scope with the EPA following these scoping meetings and will then develop and submit the EIA. Once this has been approved a copy of it will be made available publicly on the EPA website and can be shared with the GWI.	Volume 2: Chapter 7 Hydrology and Surface Water; Chapter 8 Hydrogeology and Groundwater
Water Supply	The mountains is also a source of water. Where we get water from currently is close to the mountain. Based on the size and type of mining, will it affect the supply and quantity water coming from Salbora? We are currently experiencing drought and Salbora has not been producing enough water for the community and Mahdia, and I believe that with the project operation, it will further affect the Salbora supply of water.	Stronghold Guyana has ensured the project design avoids the [Salbora] watershed, not only where the intake is located. Our operations are a few kilometres south of that. We are collaborating with our consultants and design engineers who have been instructed to avoid the watershed and assess the potential impacts. Stronghold Guyana are aware that water is a key concern for communities, and we will report back during the disclosure meetings, and you will have another opportunity to go through the designs.	Volume 2: Chapter 2 Project Description, Section 2.5.9.14
Watershed	Will you be mapping the existing watershed? Is it located within or outside the EMPL? Will the resulting report be included in appendices or shared in the final EIA?	Yes, GRE water specialists have mapped the watersheds located in the Project Area. It is critical for Stronghold Guyana to understand the watersheds around the Mahdia water supply. A lot of work is being done to understand this (e.g. pumping tests, measuring flow rates) and is still in progress. The initial water balance has been established, and results will be presented in the EIA.	Volume 2: Chapter 7 Hydrology and Surface Water; Chapter 8 Hydrogeology and Groundwater

6.6 STAKEHOLDER ENGAGEMENT PLAN PER PROJECT PHASE

Based on the activities employed and feedback received to-date, Stronghold Guyana will implement the following plan (Table 6.4). This is constantly evolving and will be reviewed and updated on an annual basis, or more frequently if there are significant changes to the Project.

6.7 LOCAL DEVELOPMENT ACTIVITIES PLAN

The Project has put several plans in place to support employment and communities within the footprint of the Eagle Mountain Project:

- Guyanese Labour Resources:
  - Focus on provision of jobs for local citizens and permanent residents of Guyana for employment opportunities, provided such persons are available, qualified, and equally suitable for the role.
  - Stronghold Guyana will consult with any local employment agency or such other organisations to identify qualified and suitable local Guyanese citizens for employment.
- Training Programme:
  - Stronghold Guyana will develop a detailed training programme to support the development of suitable and qualified Guyanese personnel at all operational levels for the purposes of the Project. The Training Programme may involve training courses, on-the-job training, scholarships, and, where necessary, overseas training at partner facilities and may cover skills such as production, maintenance, finance, and personnel management. Any overseas training will be coordinated with the Commission and the Government to ensure that Guyanese trained in accordance with the training programme return to work in Guyana.
  - Stronghold Guyana will enlist the participation and cooperation of the Government, the Commission, the University of Guyana and the Government Technical Institute in preparing and implementing the Training Programme.
- Environmental, Community Development and Social Support:
  - Stronghold Guyana will support community initatives, with a focus on benefiting residents of the Potaro Mining District No. 2.
  - Meetings will be held regularly to provide an open and collaborative platform for discussion among communities, individuals and other stakeholders impacted by the Eagle Mountain Project. The meetings may include stakeholder representatives from Government, regional office, women miners' association, small- and large-scale businesses, regional education and health, Mayor office, Miners association and communities of Mahdia, Campbelltown, Princeville, and Micobie. Meetings will be held in Mahdia to provide updates on Stronghold Guyana activities and initiatives in the region.
  - Water: Stronghold Guyana will collaborate with Guyana Water Incorporated (GWI) to identify potential upgrades and improvements to the local water supply system. Stronghold Guyana will share any water quality and quantity data collected with GWI where it may help to improve community water management.
  - Roads: Stronghold Guyana will work with the Ministry of Public Works to clarify responsibilities for maintenance and upgrades of roads and bridges.

- Other Activities:
  - Office in Mahdia. Stronghold Guyana will establish an office in Mahdia to allow residents of Region 8 to enquire about employment and procurement opportunities.
  - Recruitment outreach. Stronghold Guyana will conduct recruitment outreach across communities in Region 8, potentially consisting of job fairs, etc.
- Employment of Community Relations Officer (CRO) and Community Development Officer (CDO). Stronghold Guyana will appoint a CRO and CDO to work with stakeholders from Region 8. Key responsibilities may include:
  - Assisting local businesses and startups to take advantage of potential project-related opportunities
  - Building strong relationships with community stakeholders, including local business, government agencies and community organisations
  - Leading and participating in community outreach programmes to promote business development and economic opportunities
  - Act as a liaison between the community and the project
  - Establishing and managing strategic partnerships between the project and the community to advance community business development goals
  - Media visibility. Stronghold Guyana may provide periodic updates about the Eagle Mountain Project and local initiatives via social media platforms (such as Facebook or LinkedIn). In addition, a dedicated WhatsApp and email address will be established to handle enquiries and provide regular updates to community members.
- Community visits. The Community Relations Officer and other Stronghold Guyana staff shall conduct periodic visits to the communities of Campbelltown and Mahdia to engage directly with stakeholders on the Eagle Mountain Project.

TABLE 6.4 STAKEHOLDER ENGAGEMENT IMPLEMENTATION PLAN

Stakeholders	Engagement Goals	Engagement Activities	Project Phase
Actively Engaged *Engage frequently and look for opportunities to collaborate, partner, and create shared value.*			
• Government • Guyana Geology & Mines Commission • Guyana Forestry Commission • Guyana Lands & Surveys Commission • Environmental Protection Agency • Board of Industrial Training	• Legal, regulatory and permitting compliance • Recruitment and upskilling of local workforce	• Regular formal written communications as part of government engagement processes or in response to queries • Regular formal individual or group meetings with recognised representatives	• Pre-production, Construction, and Operation
• Civil Society • University of Guyana	• Archaeological evaluations • Recruitment and upskilling of local workforce	• Memorandum of Understanding for archaeological project • Scholarships and bursaries	• Pre-production, Construction, and Operation
• Communities • Council and Village leaders/Toshaos • Surrounding towns and communities	• Recruitment and upskilling of local workforce and suppliers • Identification and prioritisation of social investment and support opportunities	• Regular formal and informal written communications as part of ongoing stakeholder engagement activities • Regular formal and informal individual and group meetings with leaders and residents • Regular Multi-Stakeholder Working Group meetings with recognised representatives	• Quarterly visits to communities during Project lifecycle
• Private Sector	• Provision of essential services through subcontracting • Recruitment and upskilling of local workforce and suppliers • Monitoring of relevant permitting, operational and workforce developments	• Regular formal and informal written communications as part of tendering, contracting and managing contractors • Regular formal and informal individual and group meetings with management	• Pre-production, Construction, and Operation

Stakeholders	Engagement Goals	Engagement Activities	Project Phase
Highly Responsive *Engage proactively and monitor opinions and level of satisfaction/concern*			
• Government • Guyana Gold Board • Maritime Administration Department • Guyana Civil Aviation Authority • Guyana Energy Agency • Central Housing & Planning Authority	• Legal, regulatory and permitting compliance • Provision of essential logistics and utilities services	• Formal written communications as part of government engagement processes or in response to queries as needed • Formal individual or group meetings with recognised representatives as needed	• Pre-production, Construction, and Operation
• Civil Society • Amerindian People's Association • Guyana Water Incorporated (GWI) • Pesticide and Toxic Chemicals Control Board	• Recruitment and upskilling of local workforce and suppliers • Identification and prioritisation of social investment and support opportunities	• Formal and informal written communications as part of ongoing stakeholder engagement activities as needed • Formal and informal individual and group meetings with leaders and members as needed	• Quarterly visits to communities during Project lifecycle
Keep Informed *Engage regularly; keep involved and consult on topics of interest to each group*			
• Government • Guyana Police Force • Ministry of Health • Ministry of Natural Resources • Ministry of Labor • Ministry of Amerindian Affairs • Ministry of Local Government • Regional Democratic Council • Neighbourhood Democratic Council	• Legal, regulatory and permitting compliance • Identification and prioritisation of opportunities for collaboration • Company and project updates	• Formal written communications as part of government engagement processes or in response to queries as needed • Formal individual or group meetings with recognised representatives as needed	• Pre-production, Construction, and Operation

Stakeholders	Engagement Goals	Engagement Activities	Project Phase
• Civil Society • Guyana Gold & Diamond Miners Association • Guyana Women Miners Organisation • Small Miners Association	• Monitoring of relevant operational and workforce developments • Identification and prioritisation of opportunities for collaboration	• Informal written communications as part of ongoing stakeholder engagement activities as needed • Informal individual and group meetings with leaders and members as needed	• Pre-production, Construction, and Operation
• Communities • Concession/title holders	• Company and project updates	• Informal individual and group meetings as needed	• Quarterly visits to communities during Project lifecycle
• Private Sector • Transport operators	• Provision of essential services through subcontracting • Recruitment and upskilling of local workforce and suppliers	• Regular formal and informal written communications as part of tendering, contracting and managing contractors • Regular formal and informal individual and group meetings with management	• Pre-production, Construction, and Operation
Monitor *Monitor opinions; keep informed on relevant topics*			
• Government • National Toshaos Council	• Legal, regulatory and permitting compliance • Identification and prioritisation of opportunities for collaboration • Company and project updates	• Formal written communications as part of government engagement processes or in response to queries as needed • Formal individual or group meetings with recognised representatives as needed	• Pre-production, Construction, and Operation
• Civil Society • World Wildlife Fund • Wildlife Conservation Society • Conservation International • Flora and Fauna International • Artisanal Gold Council	• Monitoring of relevant developments • Identification and prioritisation of opportunities for collaboration	• Informal written communications as part of ongoing stakeholder engagement activities as needed • Informal individual and group meetings with recognised representatives as needed	• Pre-production, Construction, and Operation

Stakeholders	Engagement Goals	Engagement Activities	Project Phase
• Communities • Landings • Pork-knockers, dredging & shaft operators	• Monitoring of relevant developments	• Informal individual and group meetings as needed	• Quarterly visits to communities during Project lifecycle
• Private Sector • International industry initiatives • Media (print, radio, social) • Other companies	• Monitoring of relevant developments • Identification and prioritisation of opportunities for collaboration	• Regular media monitoring • Formal individual or group meetings with recognised representatives as needed	• Pre-production, Construction, and Operation

6.8 GRIEVANCE PROCEDURE

Stronghold Guyana is developing a Grievance Procedure and associated mechanism for use by external stakeholders. The mechanism will align with the effectiveness criteria from the United Nations Guiding Principles on Business and Human Rights for non-judicial grievance mechanisms and will be properly communicated to all relevant stakeholders on a regular basis.

6.8.1 PURPOSE AND OBJECTIVES

The overall purpose of the Grievance Procedure is to provide an effective and transparent process for community members to raise concerns, complaints, or grievances related to Stronghold Guyana's projects, activities, or impacts. Specific objectives include:

- Ensuring that all grievances are addressed in a timely and fair manner
- Enhancing community trust and engagement
- Identifying and mitigating potential issues early and avoiding conflict

6.8.2 SCOPE

A Grievance Procedure, as provided in Appendix D, along with a method to provide responses to those who file a grievance/inquiry, will act as the mitigation to address stakeholder concerns over the Project lifecycle. The Grievance Procedure will address issues such as environmental impacts, health and safety concerns, employment practices, and human rights or social or economic impacts, including any other community-related issues.

6.8.3 COMMUNICATION

Stronghold Guyana will periodically review and evaluate the effectiveness of the Grievance Procedure and will solicit feedback from community members to identify areas for improvement and ensure continuous enhancement of the process. The Company will make information about the existence and application of the Grievance Procedure readily accessible to members of surrounding communities through various channels, including community meetings, posters, and digital platforms.

7. SCOPE OF THE EIA

This EIA has been prepared to conform to guidelines established by the Guyana Environmental Protection Agency and as detailed in the EPA publication titled Environmental Impact Assessment Guidelines, Volume 3 Mining, Version 1, August 2000. In accordance with those guidelines this EIA is comprised of three components, the Environmental Baseline Study, The Environmental and Social Assessment and the Environmental and Social Impact Management Plan. The baseline detailed herein is a record of the present quality of the physical, biological and socio-economic and socio-cultural variables within the project area of influence. The existing environment is described only for those aspects of the physical, biological, social and economic environment within the study area that are relevant to the project.

The EIA identifies and assesses the impacts of the proposed action and its alternatives taking into consideration the measures that are proposed to mitigate and/or enhance the probable impacts. The assessment identifies the project-environment interactions during design, construction and operation and after closure of the operation. The schedule and costs associated with mitigation of environmental effects are also examined as part of the EIA.

The Environmental Management Plan (EMP) has been prepared to confirm to the "Guidelines for Preparing Environmental Management Plans" detailed in the referenced document. In accordance with those guidelines, the EMP identifies feasible and cost-effective measures to reduce potentially adverse environmental impacts to acceptable levels. It also includes operational procedures to avoid environmental risks during operations as well as emergency and contingency plans in the event of accidents during operations.

7.1 AREA OF INFLUENCE

The Study Area covers the Project facilities of the mine site including the mine pit area and associated infrastructure (such as tailings storage facilities (TSFs), waste storage facilities dumps (WSFs), and work camp located in the Prospect Licensing (PL) Area, as well as access roads.

7.1.1 ENVIRONMENTAL AREA OF INFLUENCE

The Project Area of Influence (AoI) covers the wider PL and area in which the impacts to ecology could occur. For the separate topics, individual AoIs have been identified as shown below:

- Air and Noise (Nuisance impacts) – dust impacts from construction and operation can occur within 500m of the Project activity. For emissions from the processing plant and power plant, the impacts could be more wide ranging – around 5 km from the site.
- Water Resources and Soils - defined as the surface water hydrology (streams, rivers, wetlands, and other permanent or seasonal waterbodies) and their respective uses downstream of the mine site.
- Terrestrial and Aquatic Ecology – the ecological AoI covers the Project facilities of the mine site, including the mine pit area and associated infrastructure (such as tailings storage facilities (TSFs)), waste rock dumps (WRDs), and work camp located in the PL, as well as access roads surrounding the Project Area.

7.1.2 SOCIAL AREA OF INFLUENCE

The study areas referenced in the discussion of socioeconomic resources comprise the Social Area of Influence (Social AoI) and are described below:

- **Direct AoI:** This area includes the population centres immediately surrounding the Eagle Mountain Prospecting License Area (EMPL) and along the road to Mahdia.
- **Indirect AoI:** This area includes the population centres located further from the EMPL, in proximity to potential ancillary facilities, and/or that have direct socioeconomic connection with proposed Project activities. This includes:
  - Mahdia, the regional town that would be impacts from increased traffic, located around 10 km from the EMPL;
  - Minnehaha, that would be impacts from increased traffic, located to the south of the EMPL; and
  - Georgetown, the capital and port city to and from which Project supplies will be shipped and where government offices are headquartered.

7.2 RESOURCES AND RECEPTORS ASSESSED IN THE EIA

It is important to select resources/receptors based on the understanding and evaluation of environmental, social and health conditions specific to the Project and proposed activities, with consideration of the potential AoI. This enables the impact assessment to be informed and Project-specific. The EIA team has drawn upon the following in undertaking the scoping process for this Project:

- Professional experience and specialist knowledge of potential impacts associated with the construction and operation of the Project area;
- Guidance from national legislation and international standards; and
- Information provided by the client.

The scope of the EIA was defined based on the following three broad categories:

- Technical scope
- Spatial scope
- Temporal scope

The scoping process for the Project involved setting out the scope of the EIA for these categories. The key issues for the EIA to address were then identified, based on knowledge of the intended activity at the time of scoping and on the Project's environmental and socioeconomic setting.

The scoping process was informed by interaction with the Project design team and was further refined based on consultation with a range of stakeholders. This stage was intended to ensure that the IA identifies and focusses on those issues that are most important for design and decision-making and of most interest to stakeholders.

Impact identification is an iterative process. The potential interactions between the Project and the receiving environment are considered to determine the likely Project impacts and those that are potentially significant, i.e., those that should be considered in the decision-making process.

The potential interactions between the Project and the resources and receptors are analysed during the scoping process using a modified Leopold matrix[1] approach. The matrices shown in Table 7.2 to Table 7.5 display the key Project activities (through the relevant life cycle) against resources/receptors. This enables a methodical identification of the potential interactions each Project activity may have on the range of resources/receptors within the AoI.

The colour code used to display the results of the analysis is shown in Table 7.1.

TABLE 7.1 SCOPING EVALUATION CRITERIA

Colour	Description	Scope in/out
(white)	No interaction is reasonably expected	Aspect "scoped out"
	An interaction is reasonably possible but none of the resulting impacts are likely to lead to significant effects	Aspect "scoped out", but rationale is provided in relevant section of current report
	An interaction is reasonably possible and at least one of the resulting impacts is likely to lead to a (negative) effect that is significant. NB. also indicates significant data-gaps (to be identified in the comments)	"Scoped in" – subject to impact assessment.
	Denotes a positive interaction	"Scoped in" – subject to impact assessment.

In summary:

- Interactions that are coloured **white** are 'scoped out' of further consideration in the impact assessment process and no discussion is warranted in the EIA report to support the decision (owing to the obvious basis for identifying no potential interaction).
- Interactions that are coloured **yellow** are also 'scoped out', but during the impact assessment process these potential interactions will be reviewed to confirm that resulted impacts are not significant and/or are appropriately addressed through one or more embedded controls such as obligatory air filters on equipment or bunding of liquid containers in compliance with local regulations and international good practices.
- Interactions marked with **orange** and **green** are subject to impact assessment as part of the EIA process.

7.3 CHALLENGES IN CONDUCTING THE EIA

The following limitations have been identified in the EIA:

- The EIA is prepared based on design cut off of October 2025 and it is noted that further final design is ongoing and will be for another year.
- If the design changes in such a way as to require further assessment, this will be reported to the EPA from Stronghold Guyana and will be assessed as required.
- No other challenges were identified during the EIA.

TABLE 7.2 SCOPING MATRIX (CONSTRUCTION – PHYSICAL AND BIOLOGICAL ENVIRONMENT

	Physical Environment						Biological Environment						
	Air	Noise	Land and Waste		Water		Habitats			Flora		Fauna	
	Pollutants, Particulate, Odor	Noise and Vibration	Geology and Soils	Soil Contamination	Hydrogeology	Hydrology	Relevant Habitats	Ecological Connectivity	Protected Areas	Relevant *Taxa*	Invasive Sp,	Relevant *Taxa*	Invasive Sp.
Project design and Site preparation													
Land Acquisition (temp. and perm.)													
Land Clearance and internal road construction													
Worker mobilisation													
Construction													
Production facilities and infrastructure													
Ground works													
Worker and equipment mobilisation													
Maintenance of construction camps													
Groundwater/Surface water extraction													
Waste management													
Access Roads													
Ground works / Clearing													
Road construction													
Open pit work													
Open pit mine preparation / blasting													
Underground mine preparation													
Pit dewatering													

TABLE 7.3 SCOPING MATRIX (CONSTRUCTION – SOCIAL ENVIRONMENT)

	Social Environment												
	Economics			Community				Cultural Heritage	Workers and Labor Rights			Infrastructure	
	Supply chains & Businesses	Recreation & Tourism	Ecosystem Services	Human Rights	Physical and Economic Displacement	Community Health and Safety	Vulnerable / Indigenous People	Tangible / intangible	Child / forced labour	Capacity Building	Occupational H&S	Traffic and Transport	Access to Services
Project design and Site preparation													
Land Acquisition (temp. and perm.)													
Land Clearance and internal road construction													
Worker mobilisation													
Construction													
Production facilities and infrastructure													
Ground works													
Worker and equipment mobilisation													
Maintenance of construction camps													
Groundwater/Surface water extraction													
Waste management													
Access Roads													
Ground works / Clearing													
Road construction													
Open pit and underground work													
Open pit mine preparation / blasting													
Underground mine preparation													
Pit dewatering													

TABLE 7.4 SCOPING MATRIX (OPERATIONS – PHYSICAL AND BIOLOGICAL ENVIRONMENT)

	Physical Environment						Biological Environment						
	Air	Noise	Land and Waste		Water		Habitats			Flora		Fauna	
	Pollutants, Particulate, Odor	Noise and Vibration	Geology and Soils	Soil Contamination	Hydrogeology	Hydrology	Relevant Habitats	Ecological Connectivity	Protected Areas	Relevant *Taxa*	Invasive Sp.	Relevant *Taxa*	Invasive Sp.
Operation													
Open pit and maintenance facilities, WSF													
Pit dewatering					■		■			■		■	
Blasting operations	■	■				■						■	
Ore extraction and transportation	■	■		■		■						■	
Pit excavation	■	■		■		■	■	■		■	■	■	■
Processing Plant													
Ore stockpiling	■	■		■		■	■	■		■	■	■	■
Processing and chemical use	■	■			■	■	■			■		■	
Chemical agent storage, transport and handling		■				■	■			■		■	
Water treatment						■	■			■	■	■	■
Tailings and Clean Tailings													
Tailings storage Facility	■	■		■	■	■	■	■		■		■	
Water seepage and decant water management						■	■			■		■	
Waste management													
Waste storage	■	■		■		■	■			■	■	■	■
Waste final disposal	■	■		■	■	■	■			■	■	■	■
Water supply and management													
Groundwater / surface water extraction					■	■				■		■	
Water discharge						■	■			■		■	
Sewage sludge removal						■	■						
Roads and maintenance, vehicle / vessel movements													
Road maintenance	■					■					■	■	■
Plant maintenance, monitoring and repair	■					■						■	
Vehicle movements (ore transport, tailing pulp transport, worker movements, offloading)	■	■			■	■					■	■	■
Worker mobilisation													
Worker mobilisation	■	■								■	■	■	■
Worker accommodation and facilities	■	■					■	■		■	■	■	■

TABLE 7.5 SCOPING MATRIX (OPERATIONS – SOCIAL ENVRIONMENT)

	Economics			Community				Cultural Heritage	Workers and Labor Rights			Infrastructure	
	Supply chains & Businesses	Recreation & Tourism	Ecosystem Services	Human Rights	Physical Resettlement and Economic Displacement	Increased risk on Community Health and Safety	Vulnerable & Indigenous People	Tangible / intangible	Child and forced labour	Capacity Building	Occupational H&S	Traffic and Transport	Access to services
Operation													
Open pit and maintenance facilities, WSF													
Pit dewatering													
Blasting operations													
Ore extraction and transportation													
Pit excavation													
Processing Plant													
Ore stockpiling													
Processing and chemical use													
Chemical agent storage, transport and handling													
Water treatment													
Tailings and Clean Tailings													
Tailings storage Facility													
Water seepage and decant water management													
Waste management													
Waste storage													
Waste final disposal													
Water supply and management													
Groundwater / surface water extraction													
Water discharge													
Sewage sludge removal													
Roads and maintenance, vehicle / vessel movements													
Road maintenance													
Plant maintenance, monitoring and repair													
Vehicle movements (ore transport, tailings pulp transport, worker movements, offloading)													
Worker mobilisation													
Worker mobilisation													
Worker accommodation and facilities													

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