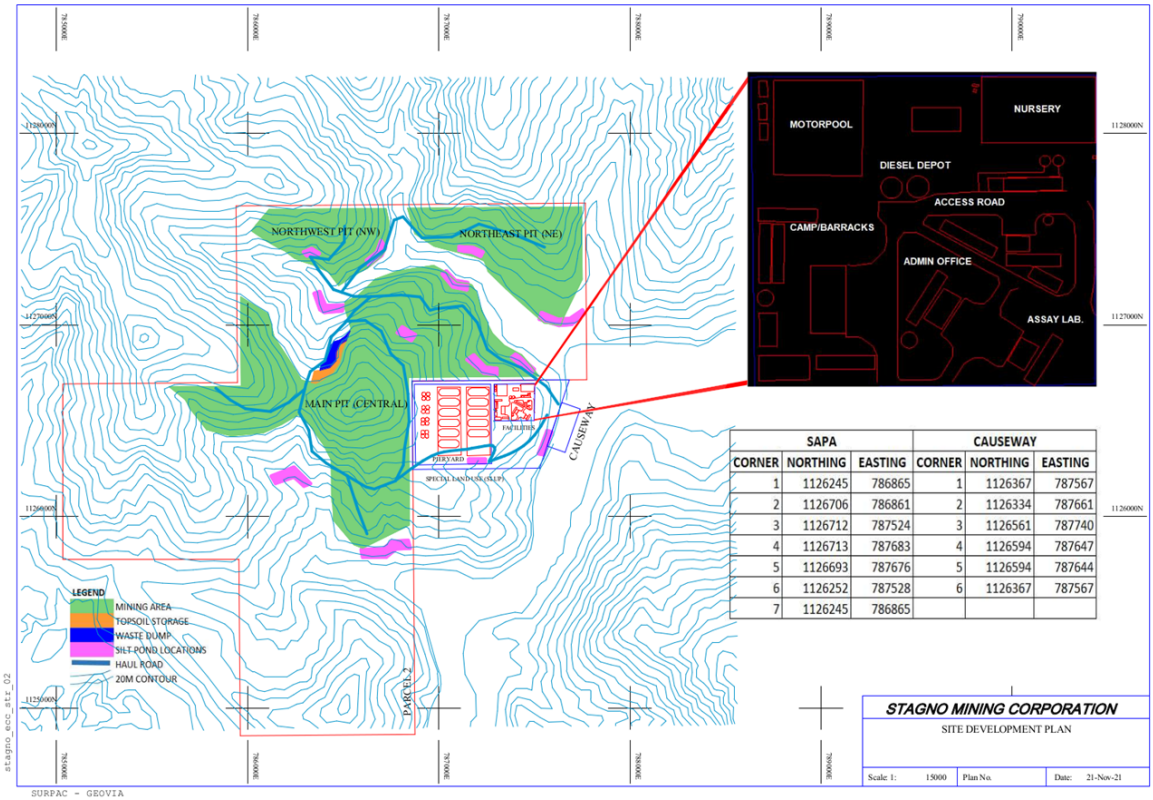
EXECUTIVE SUMMARY FOR THE PUBLIC (ENGLISH)

MPSA 022-94-X Amended I

STAGNO LIBJO MINING PROJECT

Municipality of Libjo, Province of Dinagat Islands



SAPA			CAUSEWAY		
CORNER	NORTHING	EASTING	CORNER	NORTHING	EASTING
1	1126245	786865	1	1126367	787567
2	1126706	786861	2	1126334	787661
3	1126712	787524	3	1126561	787740
4	1126713	787683	4	1126594	787647
5	1126693	787676	5	1126594	787644
6	1126252	787528	6	1126367	787567
7	1126245	786865			

STAGNO MINING CORPORATION

Unit 1202B KeppWealth Center, Samar Loop Center, Cardinal Rosales Avenue,
Cebu City Business Park Center, Cebu City, Philippines
Cell No. +63 917 321 1984: Email Address: stagnominingcorp@gmail.com

i. Project Information

Project Name	**Stagno Libjo Mining Project**
Location	Barangays San Antonio, San Jose, Garcia, General Aguinaldo, and Bayanihan, Municipality of Libjo, Province of Dinagat Islands
Project Type	Resource Extractive Industry
MPSA Area No.	MPSA 022-94-X (SMR) Amended I
Mining Method	Contour mining Method
Project Area Covered	1,149.8301 hectares (MPSA Area) **36.63 hectares (Components outside the MPSA area)**
Production Capacity	1,000,000 WMT pet year
Commodity	Chromite and other associated minerals
Mine Life	7 years
Available Resource	8 million WMT with weighted average Fe grade of 38.10% and Ni grade of 0.73%

ii. Proponent Profile

Project Proponent	**STAGNO MINING CORPORATION**
Main Office Address	Unit 1202B KeppWealth Center, Samar Loop Center, Cardinal Rosales Avenue, Cebu City Business Park Center, Cebu City
Contact Person	**YI HUNG LAM** stagnominingcorp@gmail.com

iii. Preparer Profile

Axceltechs, Inc.

Office Address:	Unit 10C, Lansbergh Place 170 Tomas Morato, Quezon City
Authorized Representative/ Contact Person (s):	**ENGR. PAULO NONI T. TIDALGO** Managing Director

1.0 PROJECT LOCATION

The permitted area of MPSA No. 022-94-X (SMR) Amended I is located in Barangays San Antonio, San Jose, Garcia, General Aguinaldo, and Bayanihan, Municipality of Libjo, Province of Dinagat Islands (***Figure 2***). The tenement area approximately has a total area of 1,149.8301, consisting of two parcel, Parcel 1 is 729 hectares and Parcel 2 is 420.8301 hectares. Parcel 2 is located within the drainage area of Gaas Inlet (Error! Reference source not found.) which is listed as one of the Principal Rivers of Northern Mindanao Water Resources Region by the National Water Resources Board (NWRB)[1]. The following are the boundaries of the two parcels (***Figure 2 - Tenement Map***).

Parcel 1, is situated west of the project area which is only about 4 to 5 km aerial distance from Parcel 2 tenement, is also within the jurisdiction of the Municipality of Libjo. Dinagat islands is one of the smallest island provinces in the country with a total land area of 1,036 sq. km (400.1 sq mile). The province is composed of seven (7) municipalities namely: San Jose (Capital), Basilisa (Rizal), Dinagat, Cagdianao, Loreto, Tobajon and Libjo.

Table 1 – Coordinates of MPSA No. 022-94-x (SMR) Amended I

Parcel 1 Technical Description

CORNER	LATITUDE	LONGITUDE
1	10 12’ 00”	125 33’ 00”
2	10 10’ 00”	125 33’ 00”
3	10 10’ 00”	125 35’ 00”
4	10 12’ 00”	125 33’ 30”

Parcel 2 Technical Description

CORNER	LATITUDE	LONGITUDE
1	10 10’ 00”	125 36’ 30”
2	10 10’ 30”	125 36 30”
3	10 10” 30”	125 36’ 00”
4	10 11’ 00”	125 36’ 00”
5	10 11’ 00”	125 36’ 30”
6	10 11’ 30”	125 36’ 30”
7	10 11’ 30”	125 37’ 30 “
8	10 11’ 00”	125 37’ 30”
9	10 11’ 00”	125 37’ 00”
10	10 10’ 00”	125 37’ 00”

[1] Previously National Water Resources Council (NWRC)

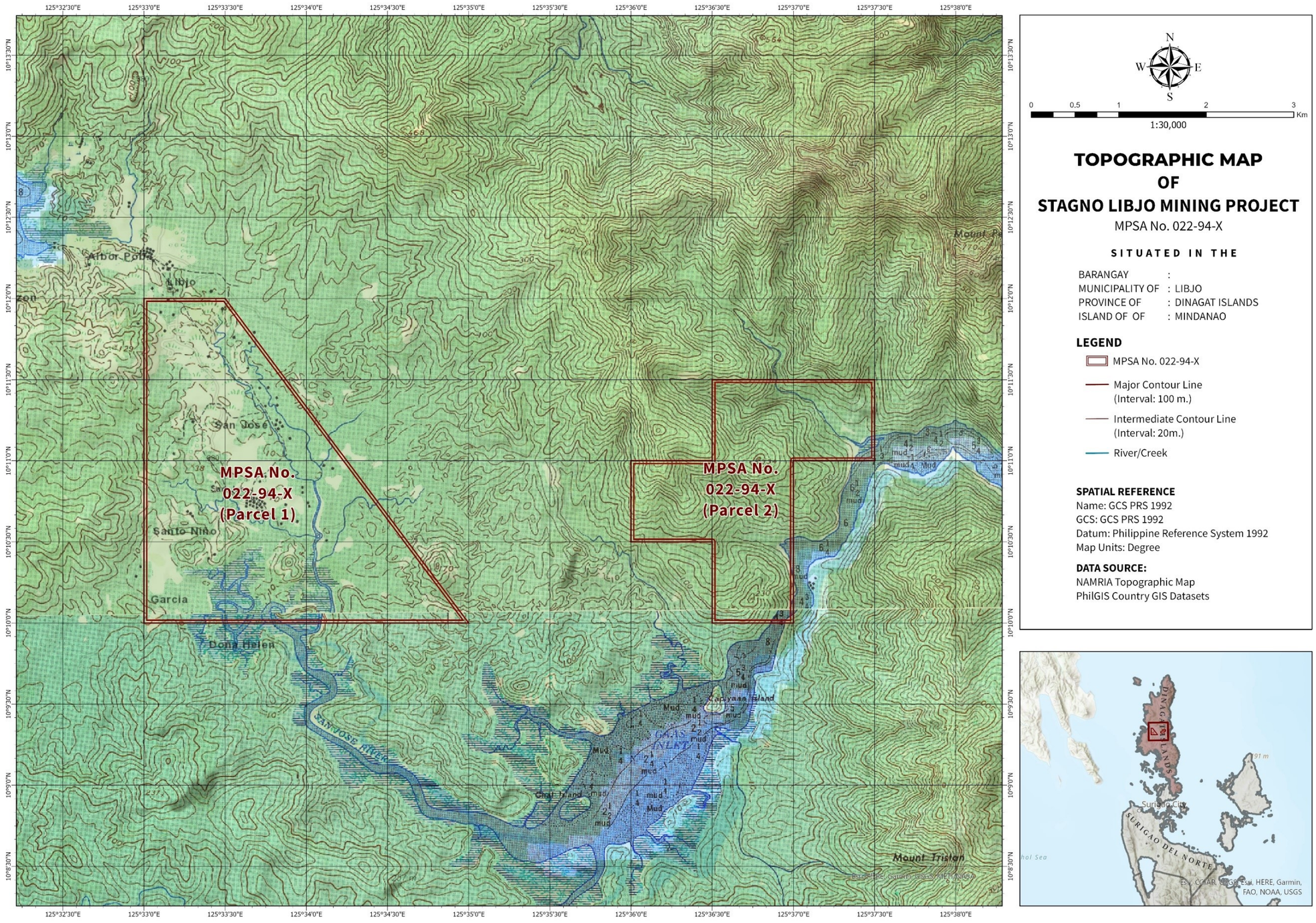


Figure 2 - Location Map

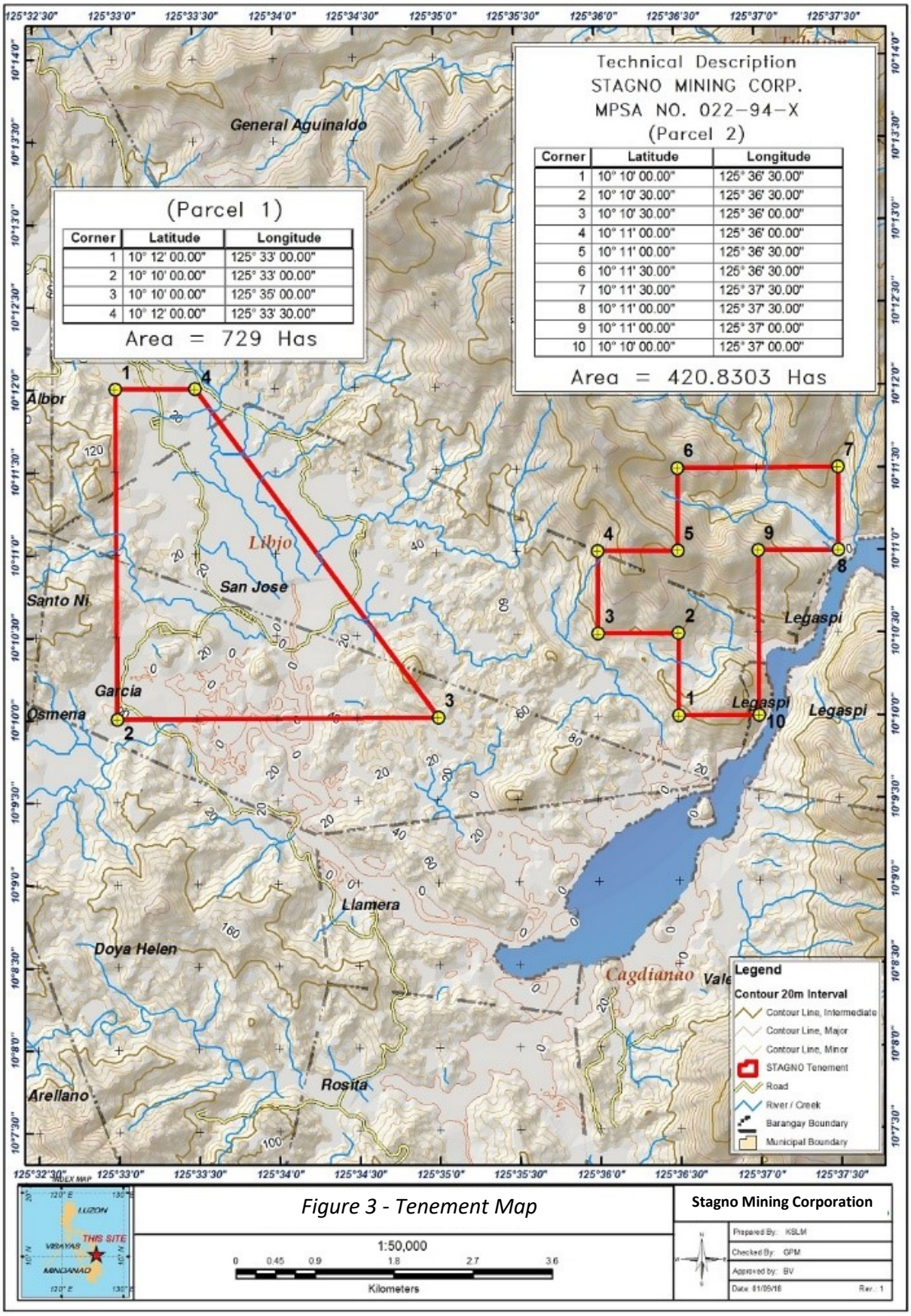


Figure 3 - Tenement Map

Figure 4 - Parcel 1 Drone Shot

Figure 5 - Parcel 2 Drone Shot

1.1 Impact Areas

The identification of direct impact area was based on DAO 2017 – 15. The table below presented the summary of Direct Impact Areas based on the proposed project operation:

***Table 2 – Summary of Impacts to the Impact** Area*

Aspect	Direct Impact Area
Water	- Receiving water bodies of the project (Tributaries of San Jose River & Gaas Inlet) - Underlying aquifer
Air	- Area near the periphery of the mining area
Noise	- Area within the periphery of the mining area
Terrestrial	- Vegetated portion within the project area coverage
People	- Barangays San Antonio, San Jose, Garcia, General Aguinaldo, and Bayanihan, Municipality of Libjo, Province of Dinagat Islands

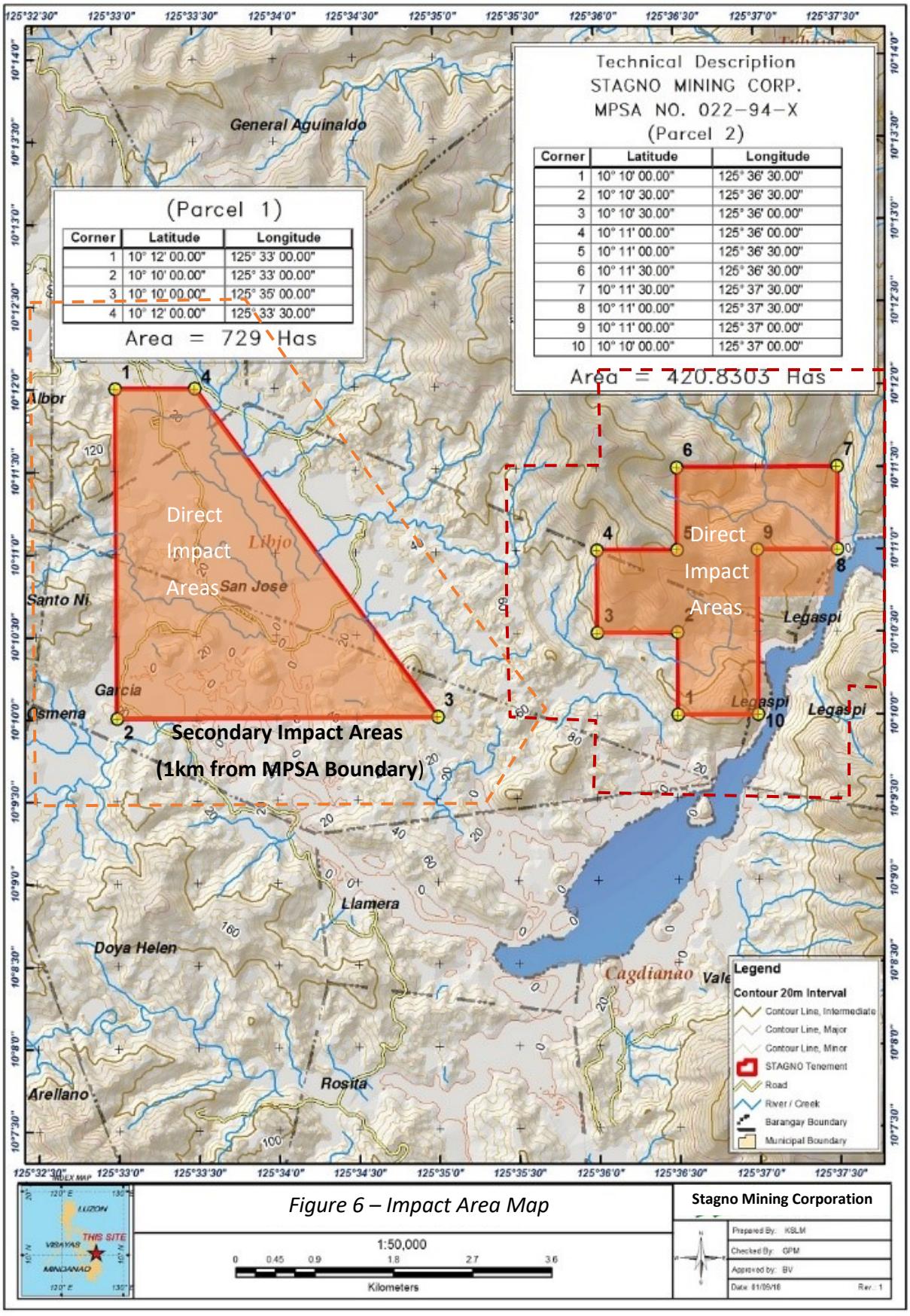


Figure 6 – Impact Area Map

2.0 PROJECT ALTERNATIVE

2.1 Project Location and Process

The project is located in a government declared mineral reservation. It will solely cover contour mining operation, the depth of the pit and its location will depend on the exploration activities conducted by the company, thus no other site alternative considered in terms of mining area. Further, considering the type and location of mineral to be extracted, the only feasible mining method for the project is contour mining method, thus, there were no other alternative method considered for the project.

2.2 Environmental Impact

The major environmental impact that will be brought about by the project operation considering all the alternatives and the nature of project are temporary land clearing, possible siltation of Gaas River, dust emission, implementation of community development programs through Social Development Plan and generation of revenues from taxes, permits and LGU share in the mining activities.

There will be temporary surface clearing while the development and operations are ongoing. This will be mitigated by progressive rehabilitation based on the multi-sectoral approved Environmental Protection and Enhancement Program (EPEP). After closure of the Project, the disturbed areas will be continuously monitored for ten (10) years to ensure the success of the rehabilitation thru the Final Mine Rehabilitation and/or Decommissioning Plan (FMR/DP). Siltation will be addressed by minimizing disturbed areas at any given time and providing drainage system and siltation ponds.

Dust generation is foreseen to arise during construction and operation phase; however, environmental management plan such as water sprinkling and provision of buffer area thru planting of trees will be undertaken to alleviate its probable occurrence.

The implementation of SDMP will enhance the socio-economic welfare of the community. Further, the company will ensure the prompt payment of taxes and fees to the government.

2.3 Consequences of not Proceeding with Project

In terms of physical environment, the MPSA area will remain unchanged and undisturbed. As regards with socio economic, opportunity for employment that will be provided by the company will not be probable. Additional revenues from taxes, with no "project option" and the opportunity for SDMP assistance and tax revenue will not be possible.

3.0 PROJECT COMPONENTS

Project Component	*Description*
Project Area	The entire tenement has a total area of 1,149.8301 ha covering two parcels, Parcel 1 is 729 hectares and Parcel 2 is 420.8301 hectares. The SLUP for the Waste Dump, Ore Stockyard and support facilities at 34.23 hectares. Foreshore Lease Agreement (FLA) area for the causeway covering 2.4 ha.
Mining Areas	The direct mining area is estimated to be at 220 ha in Parcel 2
Exploration Area	Parcel 1 – 729 ha and Parcel 2 – 200.0301 ha
Waste Dump or Over Burden	Generated overburden waste is estimated using the average overburden thickness of 0.10 meter and the total area exposed by developmental works. The waste dump areas will have a total of 10 ha located in the SLUP Area.
Ore Stockyard	The mined ore would be brought to designated ore stockpile/stockyard. The ore stockyard will have a total area of 15 ha located in the SLUP Area.
Haul Roads /Access Roads	Haul roads and access rods will be constructed within the project area having a cumulative length of 8 to 10 km.
Causeway	A causeway will be constructed near the ore stackyard to support the direct shipment operation of the project. The causeway will be under the FLA with an area of 2.4 ha.
Field Office, Employees Quarter, Motor Pool, Laboratory and Sample Storage,	Field Office, Employees Quarter, Motor Pool, Laboratory and Sample Storage, Nursery Area and Power House Area will be constructed within the 9.23 ha under the SLUP.

Project Component	*Description*
Nursery Area and Power House	
Fuel Storage Facility	Fuel storage facility will be constructed within the 9.23 ha under the SLUP.
Settling Ponds	Settling ponds will be constructed within the project area along strategic locations considering various factors such as amount of water runoff, terrain of the area and concentration of mining ores.

3.1 Mining

The mining method to be employed will be contour mining with vertical extraction sequence adopting a 3-meter bench height and 5-meter berm width from top to lowest elevation. The extraction operation of this type of ore utilizes small to medium size heavy equipment – typically a backhoe and truck combination with backup of auxiliary equipment. A backhoe excavator extracts the ore and load it in dump trucks and transport the ore to mine stock yard or pier stockyard before loading to barges for shipment.

Preparatory activities to be undertaken prior to extraction includes clearing and grubbing, stripping of overburden, bench sampling, mine planning and survey, production mining and stockpiling or direct loading to LCT. After exhausting all the mineral, identification of area for rehabilitation will take place and the actual rehabilitation will commence.

Rigid grade control procedures will be strictly implemented all throughout the mining cycle from mine development to ore extraction at the mine to the stockpiling procedure up to the ore shipment in order to ensure the quality of the ore to be shipped-out will comply with the agreed client specifications.

3.2 Stockyard Area and Overburden

The company will maintain an ore stockpile area, topsoil area and wastedump. Topsoil stockpiles will be located in mined-out areas to minimize creating additional disturbed areas. Stockpile slope will be kept at a low angle and height to minimize slumping. The proposed height of the stockpile will depend on the angle-of-repose of the material. This is to ensure that the maximum volume of materials will be stockpiled without sacrificing safety. Angle of repose is the maximum angle of descent or dip of the stockpile slope relative to the horizontal plane.

Stockpiling of the topsoil for prolonged periods may also deteriorate the biological components in the soil deteriorating its quality. Stripping of soil at unsuitable moisture content (i.e. when wet or saturated) may also lead to compaction and loss of soil structure.
Generated overburden waste is estimated using the average overburden thickness of 0.10 meter and the total area exposed by developmental works. The waste dump areas will total 10 ha located in the SLUP Area.

3.3 Settling Pond

Settling ponds will be constructed in series. These ponds shall be appropriately designed to effectively arrest the silt coming from the mining area to meet the required water quality of the recycled water and DAO 2016-18 & 2021-19 in case of water discharge. Sediments shall be impounded from the first to the third pond in succession. While, the second pond is utilized, the first pond shall be drained and allowed to dry and desilted. Recovered silt materials will be used to backfill mined out areas. The third pond shall act a buffer for the first two ponds and shall be the source of recycled water for road sprinkling.

To minimize the silt load, from the mining areas, siltation traps along the drainage system will be built inside the active areas. Settling ponds will be desilted as the need arises.

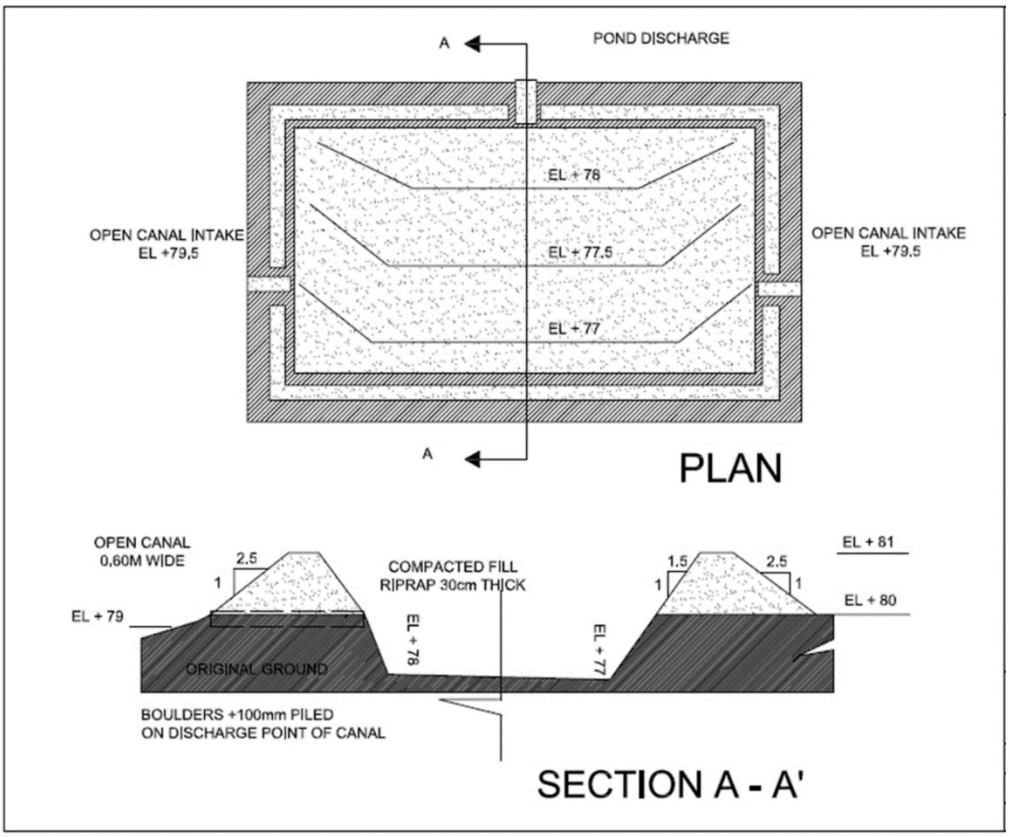


Figure 7 - Settling Pond Design

3.4 Access and Mine roads

Mine haul road will be constructed following the topographic surface contour. This shall be ballasted with crushed bedrocks extracted from mining areas. Maximum adverse road gradient is 8.0%.

3.5 Causeway

A causeway will be constructed near the ore stackyard to support the direct shipment operation of the project. The causeway will be under the FLA with an area of 2.4 ha.

3.6 Fuel Storage Facility

Fuel storage facility will be constructed within the 9.23 ha under the SLUP to support the fuel requirement of the proposed operation.

3.7 Other Facilities

The following facilities will be constructed to support the project operation:

- Field Office
- Employees Quarter
- Motor Pool,
- Laboratory and Sample Storage
- Nursery Area; and
- Power House

3.8 Support Facilities

3.8.1 Power Supply

The municipality of Libjo is being serve by Dinagat Power Cooperative. A standby generator shall be installed by the company in case of power out rages. The standby generators shall be properly maintained and permitted before utilization.

3.8.2 Water Supply

Common sources of water supply in this area is spring water.

3.9 Pollution Control Devices

Table 3 - Pollution Control Devices and Corresponding Facilities Being Served

Pollution Control Devices	Description	Location
Settling and Siltation Ponds	• Settling ponds will be strategically located within the area of processing. • Siltation ponds will be built within the mining areas to properly address surface run-offs and siltation during construction and operation of the project activities.	To be constructed within the project site along strategic locations considering various factors such as amount of water runoff, terrain of the area and concentration of mining ores.

Pollution Control Devices	Description	Location
Nursery	• Nursery will be established in the project site complete with potting sheds and planting plots for wildlings. • Endemic species will be primarily raised in the nursery. Seeds and wildlings will be collected and raised as planting materials.	Nursery will be established to cater to the needs of the progressive rehabilitation program. This will be located within the SLUP area.
Solid Waste Management	• Establishment of Ecological Center, composed of materials recovery facility and composting facility.	Compost will be used in the nursery for rehabilitation program. Segregation of biodegradable and non-biodegradable waste will be practiced. Hazardous wastes will be managed based on provisions of RA 6969.

4.0 PROCESS TECHNOLOGY OPTIONS

4.1 Stripping or Overburden Removal

Stripping or overburden removal involves the removal of the waste on top of the ore deposit. It includes stripping of the waste, clearing and grubbing of all growth, stumps, roots and all organic matters and subsequent stockpiling in the designated overburden stockpiles to be used in the rehabilitation activities under the Environmental Protection and Enhancement Program (EPEP) and the Final Mine Rehabilitation and/or Decommissioning Plan (FMR/DP). Clearing of Vegetation particularly trees shall be supported with Tree Cutting Permit issued by DENR

Stripping will commence ahead of mining to expose the ore deposit. This work will be undertaken with the use of bulldozers, loaders and trucks.

4.2 Mine Planning and Survey

Mine plans shall then be generated after positively establishing the volume and grade of the lateritic nickel ore. The plans will include excavation limits, hauls roads and ramps, drainage system, equipment requirement/selection and production schedule.

An important component of mine planning is surveying. This includes on a daily basis, production mapping and routinely survey work of mine advance, elevations and extracted volume

4.3 Mining/Ore Extraction and Hauling

Mining and production area will be confined in Parcel 2 of the MPSA.

There will be 240 mine production days per year, during the dry season; at two 10-hours shifts a day. The same number of days shall be provided as non-production days for maintenance at one 10-hour shift, during the wet season. Most of the shipping season shall occur on March to October with significant loading/shipment activity in the rest of year whenever good weather prevails.

The ore will be loaded into 20-tonner mining trucks. The twin steer, rigid frame trucks will have an 8x4 configuration with four-wheel rear drive. The trucks will operate one un-sheeted bench roads and sheeted permanent mine haul roads with gradient up to 1:12. The trucks will haul the ore to the stockyard.

Benches of 3 meters high and final berm with of 5 meters was designed to eliminate the risk of slope failure and control erosion/siltation. The benches are sloped towards the toe line and corresponding drainage canals are designed to capture run-off. These drainages are directed towards siltation ponds to contain silt incidental to the operation. To address the dust problem especially during the active hauling operation, regular grading, compaction and water spraying on all major roads will be actively undertaken.

A total of 22 hydraulic excavators (backhoe), 36 dump trucks, one (1) bulldozer shall be use for production, overburden stripping, and marketing/shipment operation. This will likewise be supported with auxiliary equipment of one (1) unit of road grader and one (1) compactor for efficient and environmentally sound hauling operation.

To support the environmental programs of the Company, a dedicated equipment consisting of one (1) unit long boom backhoe and two (2) water truck will be utilized during the entire life of its operation.

A buffer zone of 20 meter will be established within the periphery of the permit area as mandated under its ECC. This area is the target multi-purpose location for watershed protection, reforestation, nursery and farming modules for livelihood projects.

Rehabilitation work on a mined-out area commences immediately on the following year or earlier depending on the exhaustion of the deposit. This will be initiated by backfilling the area with the overburden extracted from the active panel. The backfill materials will be stabilized and contoured. Cover crops such as grasses and vines will be used as an initial rehabilitation medium before the introduction of trees (fruit-bearing and/or endemic). Full rehabilitation is expected on the sixth year.

4.4 Sampling

A bench bulk sampling of materials will be undertaken in order to have an advance ore grade information of production benches. A trench 5 meter apart, 1 meter wide and 5-meter perpendicular into the production benches will be excavated for bench sampling. This is just a confirmatory sampling procedure in order to have an assurance on the materials to be excavated.

4.5 Assay Laboratory

The company shall employ XRF method of assaying. The XRF method is favored to support the mining production operation due to its ability to process multiple samples at any given time. Collected samples will undergo sample preparation in the sample preparation area.

4.6 Ore Stockpile

After undergoing sampling procedure, the ores will now be stockpile either in Mine yard area or Pier yard area. The two stockpile areas are temporary holding of ore mined before reclaiming when needed. Mine yard and pier stockpiles are maximized to about 40 truckloads per pile with marking indicating the grade and elevation where the materials are excavated. Canvass and tarpaulin might be needed to cover and preserve moisture of the stockpiled ores. Stockpile height must be maintained to maximum of 3 meters to avoid slumping. A buffer stockpile of 1 boat load (50,000 WMT) must always be maintain to ensure delivery of committed materials to clients. Also, the stockpile areas will have run off drainage to avoid water from accumulating and create ponding.

4.7 Ore Shipment

4.7.1 <u>Barge/LCT</u>

If grade and moisture content is within allowable range, excavated ore will be directly loaded to waiting LCT in causeway. Barges/LCT are either directly loaded by trucks from mine area and/or by wheel loaders from pier-yard. Direct dumping of run-of-mine ore provides substantial savings on handling cost while minimizing spillages during handling.

During the loading of the barges/LCTs, the wheel loader will regularly pile, trim and crown the ores in order to accommodate the next incoming dump truck for subsequent efficient unloading. The loaded barge/LCT will navigate to the main cargo vessel anchored offshore (about several hundred- meter distance from the shoreline). Barges/LCT's will ship-side for unloading operation to the cargo vessel.

All effort should be done so as not to expose the ore to rain while cargo vessel loading operation is ongoing. Necessary canvas sheet to cover the ore inside the LCT should be available in case of inclement weather. During heavy down pour, cargo vessel loading operation shall be suspended.

4.7.2 Mother Vessel

Filled Barges or LCT's will shipside and deliver its cargo to anchored waiting Panamax mother vessel. The vessel usually takes eight (8) to nine (9) days, weather permitting to be filled. One shipment may contain 50,000 WMT and above.

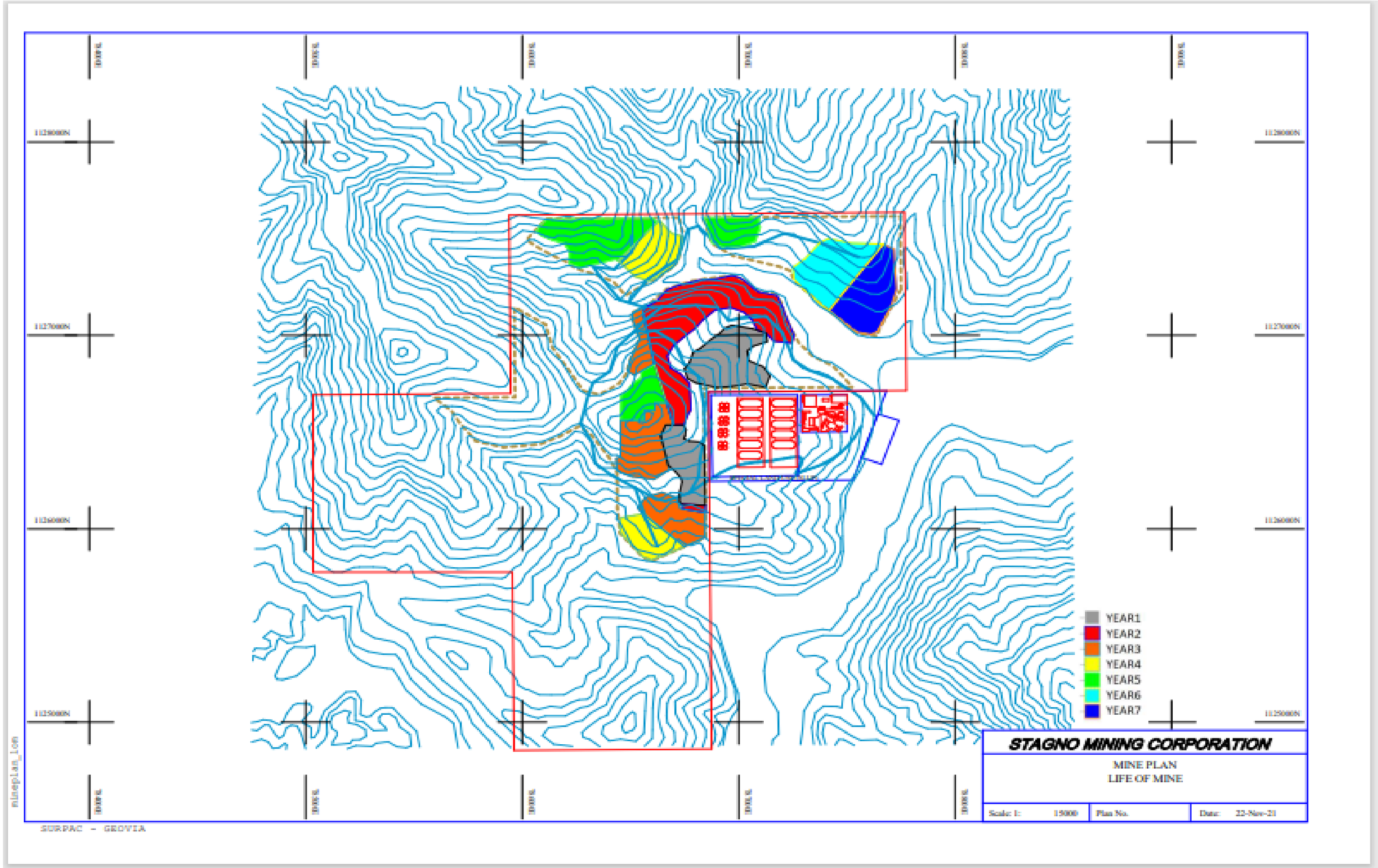
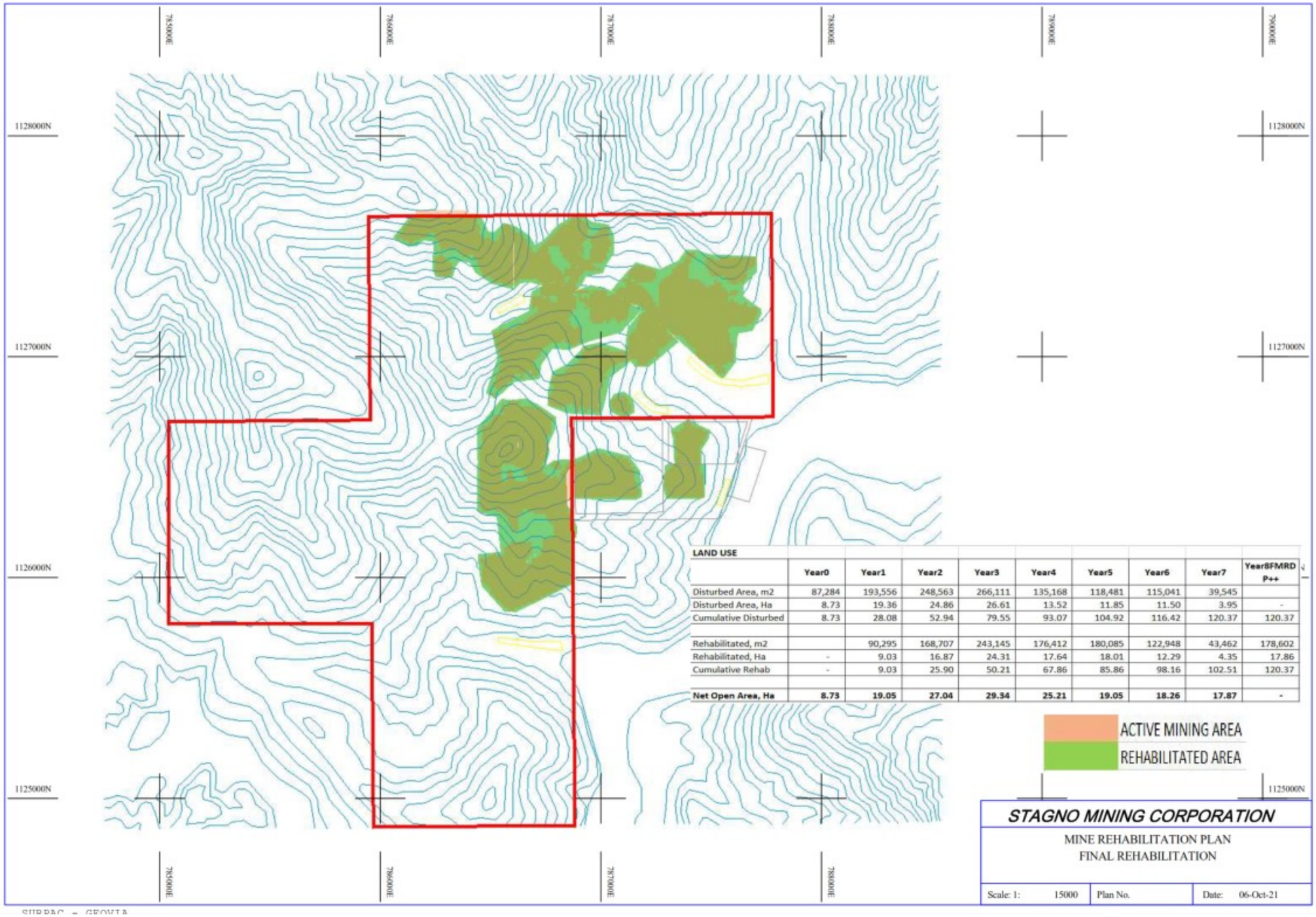


Figure 8 - Mining Schedule



LAND USE	Year0	Year1	Year2	Year3	Year4	Year5	Year6	Year7	Year8FMRD P++
Disturbed Area, m2	87,284	193,556	248,563	266,111	135,168	118,481	115,041	39,545	
Disturbed Area, Ha	8.73	19.36	24.86	26.61	13.52	11.85	11.50	3.95	-
Cumulative Disturbed	8.73	28.08	52.94	79.55	93.07	104.92	116.42	120.37	120.37
Rehabilitated, m2		90,295	168,707	243,145	176,412	180,085	122,948	43,462	178,602
Rehabilitated, Ha	-	9.03	16.87	24.31	17.64	18.01	12.29	4.35	17.86
Cumulative Rehab	-	9.03	25.90	50.21	67.86	85.86	98.16	102.51	120.37
Net Open Area, Ha	**8.73**	**19.05**	**27.04**	**29.34**	**25.21**	**19.05**	**18.26**	**17.87**	**-**

Figure 9 – Final Rehabilitation Plan

Activity	Impact	Enhancement/ Mitigating Measure	Efficiency of Measures
CONSTRUCTION PHASE			
Construction of haul road, new access road and ancillary facilities	Loss of vegetation due to site clearing Generation of dust from site/access road preparation	• Establishment of nursery to propagate important species; to be used for future rehabilitation. • Enhance Agro-forestry technologies that is suitable for the area. • Routine monitoring of terrestrial flora and fauna • Regular water sprinkling at least twice a day or as the need arises.	100% compliance to Tree Cutting Permit and Buffer Zone regulations pursuant to PD 705, as amended" 100% compliance to DAO No. 2018-19
	Generation of domestic waste	• Provision of septic vaults for the workers • Hauling of wastewater from septic tanks by DENR-accredited 3rd party collector	100% compliance to DENR standard (RA 9275)
	Generation of solid waste	• Proper management of solid waste • Strict implementation of solid waste management system	100% compliance to DENR standard (RA 9003)
Construction of port	Siltation of water bodies	• Installation of sediment traps along ditches • Construction and maintenance of siltation ponds • Maintenance of drainage canals within the project area • Continuous water quality monitoring	100% compliance to DENR standard (RA 9275)
Site preparation (clearing, grubbing, stripping of topsoil and overburden removal)	Removal of economically and ecologically important species	• Prioritizing ecologically and economically important species in conservation • Tree plantation development using the indigenous species and assisted natural regeneration (ANR) techniques • Progressive rehabilitation of disturbed areas	100% compliance to Tree Cutting Permit and Buffer Zone regulations pursuant to PD 705, as amended" 100% compliance to DAO No. 2018-19
	Removal of wildlife habitat and displacement of wildlife	• Avoid unnecessary clearing of vegetation • Strictly prohibit poaching of wildlife • Schedule of activities should be carefully considered and implemented. • Use of existing roads for accessibility	

Activity	Impact	Enhancement/ Mitigating Measure	Efficiency of Measures
	Improved accessibility of the area may attract illegal hunters and poachers	• Confine activities to designated areas • Include flora and fauna protection programs in SDMP (wildlife protection and conservation campaign • Regular replacement and/or maintenance of equipment particularly mufflers of vehicles to minimize noise. • Establishment of buffer zones along creeks	
	Enhanced soil erosion which will contribute to soil nutrient loss necessary for plant growth.	• Excavated topsoil shall be spread out in the surrounding areas; install erosion control facilities • Seeding of topsoil to maintain/improve soil quality	No incidence of landslide
	Top soil removal will be unavoidable to make way for the development of pier infrastructures and ancillary facilities	• Ground preparation and grubbing will be conducted progressively to minimize the total area of soil cover at any one time.	100% compliance to DAO No. 2018-19
	Improper disposal of domestic wastes may contaminate the soil	• All domestic wastes generated will be sold to recyclers. Residual waste will be disposed to a designated sanitary land fill	100% compliance to DENR standard (RA 9003)
	Loss of top soil due to ground/site preparation activities	• Rehabilitation/revegetation planning will be conducted in accordance with the approved EPEP. • Bulk of the total project area will be reverted to its pre-mining land use by strict adherence to the approved FMR/DP • The perimeter of the mining area shall be progressively rehabilitated and re-graded to match the surrounding landforms • Soils that will be removed will be conserved and stockpiled in a predetermined area and later used in rehabilitation and backfilling activities • The stockpile shall be graded to a stable relief • Establishment of safe working slopes and installation of land slide control structures	100% compliance to RA 7942 100% compliance to DAO No. 2018-19

Activity	Impact	Enhancement/ Mitigating Measure	Efficiency of Measures
	Increase in surface erosion and down slope sedimentation brought about by mine development activities	• Progressive ground clearing/ preparation will be employed to minimize the area disturbed at any one time	
	Earthworks, mine facility construction activities, and movement of heavy equipment will highly disturb the soil surface (i.e. compaction/soil shearing) and induce accelerated erosion susceptibility of the soil	• Progressive rehabilitation will be conducted in disturbed or cleared areas that will not be used for further development over the course of the project. • Erosion/ sedimentation controls will be installed to mitigate surface erosion and the consequent down slope or downstream	
	Top soil removal will be unavoidable to make way for the development of mining area and new access roads	• Top soil removed during the clearing, re-grading and ground preparation activities during construction will be utilized as backfill to low lying areas and service roads.	
	Soil and water Contamination due to accidental fuel and lubricant spills from vehicles and equipment may occur.	• Contaminated soils from accidental hydrocarbon spills will be removed and disposed off site. • Provision of Refuse storage facility with oil and water separator to contain any oil and grease accidental spill.	100% compliance to DENR standard (RA 9275 and RA 6969)
	Generation of unwanted materials (solid waste/biomass/debris)	• Materials recovered from vegetation removal can be used as: Trash lines on steep slopes to mitigate soil erosion Compost material/surface mulch for immediate soil cover and for improving SOM content of soils • Chipping of cut trees and using the chipped material as a growing medium for rehabilitation	100% compliance to DENR standard (RA 9003)
	Hydrocarbon leaks and spills from vehicles and heavy equipment may contaminate the ground water and nearby body of water.	• Monitoring and safety systems will be implemented to address any leakage related hazards that may occur.	100% compliance to DENR standard (RA 6969)
	Ground water inflow and rainwater that will percolate into the mine working area will produce contact water from the freshly mined	• A sediment and erosion control plan will be implemented for the project • Access roads will be provided with drains to contain and limit sedimentation downstream of the mining area.	No incidence of landslide

Activity	Impact	Enhancement/ Mitigating Measure	Efficiency of Measures
	area. This may contain soluble minerals and metals and other mining related pollutants.	• Site water management will be implemented to mitigate any change in water quality	
	Noise disturbance Fugitive dust generation	• Strictly implement covering of hauling trucks and water spraying; • Enclosure of equipment emitting high level of noise (when applicable) • Provision of dust and noise PPEs to employees	No exceedance to allowable threshold levels
	Vehicle/equipment emissions	• Strictly implement covering of hauling trucks and water spraying; • Preventive maintenance of vehicles and equipment • Imposition of speed limits (30 kph) • Provision of dust and noise PPEs to employees	100% compliance to DENR Standards (RA 8749)
	Creation of employment opportunities	• Implementation of skills development program to ensure support to local population in obtaining employment opportunities	100% implementation of SDMP
	Increase in business opportunities	• Coordination with Barangay and Municipal LGUs to ensure proper zoning of business area, peace and order, sanitation and solid waste management • Explore possibilities to include training opportunities for developing business / livelihood opportunities that cater to needs of the population • Provide assistance in establishing livelihood projects	100% implementation of IEC and SDMP
	Generation of additional revenue for the Local Government	• Ensure suppliers and service providers payment of required payment of taxes and fees • Ensure prompt and timely payment of local taxes and fees	100% payment of applicable taxes and fees
	In-Migration, which may result in o overuse of the public utilities/services and competition on the use of resources. Proliferation of informal settlements	• Implement policy on preferential hiring of locals from the impact barangay • Prioritization of hiring of qualified personnel from the host barangay. • Provide assistance to the Local Government to meet housing backlogs for informal settlement.	Prioritize hiring of skilled local residents 100% implementation of SDMP

Activity	Impact	Enhancement/ Mitigating Measure	Efficiency of Measures
	Disturbance to peace and order	• Provide assistance to the barangay to ensure efficient and effective delivery of social services • Proper induction of construction workers to prevent occurrence of peace and order problems or security breaches. • Coordination with the Barangay Councils, Barangay Peace and Security Officers (BPSO) as well as with the Local Police • Provide assistance to the Barangay on maintenance of peace and order. • Implementation of EMP	
	Increase in traffic hazards	• Implement Traffic Management Plan with the Barangay / Municipal LGUs including installation of traffic signs and additional traffic aids to avoid road accidents • Proper scheduling of deliver of construction materials to avoid peak hours/traffic congestion and minimize the occurrence of accidents • Proper orientation on haulers must always be conducted. Violators must be reprimanded.	100% implementation of Traffic Management Plan
OPERATION PHASE			
Extraction and hauling of mined material going to the pier	Loss of soil due to erosion would reduce survivability of plants having no substrate to anchor themselves to and obtain nutrients Loss of habitat to birds and small animals such as lizards & amphibians	• Retain existing vegetation in areas of low mineral content • Establishment of 20m buffer zone • Rehabilitation of open areas and enrichment planting and reforestation in buffer zones and mined out areas • Fire protection by setting up of fire lines • Establishing check dams in gullies • Conduct 'progressive rehabilitation' of mined out parcels • Earth-balling of rare, endemic, threatened species diversity in the project site • Routine flora and fauna assessment	100% compliance to RA 7942 100% compliance to DAO No. 2018-19
	Land Slides and mass washings maybe induced by and operation activities on high angle slopes	• Establishment of safe working slopes and installation of land slide control structures.	

Activity	Impact	Enhancement/ Mitigating Measure	Efficiency of Measures
		• Installation of warning signages in the active mininging areas.	No incidence of landslide 100% compliance to RA 7942
	Inducement of subsidence/collapse Generation of open areas with greater potential for runoff, erosion and landslides	• Implement a suitable and appropriate slope / ground failure monitoring plan to detect instability at an early and non-critical stage so that safety measures could be initiated to prevent or minimize impacts • Familiarize / orient / train mining personnel, staff and workers on recognition of the various slope / ground failure modes, hazard warning signs and standard operating procedures to be observed in the case of ground failure events or impending event. • Identification, early recognition and monitoring of warning signs of potential and impending slope stability problems. • Implement appropriate and safe engineering and geotechnical design. • Formulation and implementation of subsidence control measures including subsidence prediction.	
	Soil and water contamination due to accidental fuel and lubricant spills from vehicles and equipment may occur	• To included proper handling and storage of used oil/lubricants in the work instruction of maintenance of vehicles/equipment • All used oils, lubricants oil filters oil contaminated rugs will be sold to recyclers. Residual waste will be disposed to a designated sanitary land fill. • Provision of oil spill kits. Residual contaminated soils will be removed and disposed off site. • Provision of Refuse storage facility with oil and water separator to contain any accidental spill.	100% compliance to DENR standard (RA 9275 and RA 6969)
	• Hydrocarbon leaks and spills from vehicles and heavy equipment may contaminate the ground water and nearby body of water	• Monitoring and safety systems will be implemented to address any leakage related hazards that may occur • Used oil will be sold to EMB accredited recyclers	100% compliance to DENR standard (RA 6969)

Activity	Impact	Enhancement/ Mitigating Measure	Efficiency of Measures
	• Local increase in TSP and noise levels • Air pollution due to mining	• Proper and regular maintenance of equipment • Water spraying at least two times a day • Mining activities to be confined during daytime as much as possible • IEC on proper scheduling of hauler trucks to avoid busy and late hours	No exceedance to allowable threshold levels 100% compliance to DENR Standards (RA 8749)
	Health and Safety of workers and nearby community affected by noise and dust generation due to operations	• Implement Safety and Health Programs for the workers and impact communities to reduce or avoid health and safety risks • Strict compliance on the proper wearing of Personal Protective Equipment (PPE) for workers • Provide assistance to the Barangays on the delivery of efficient and effective healthcare and protective services • Regular water spraying at least two times a day	100% implementation of Safety and Health Program
	• Employment Opportunities	• Priority hiring of locals • Coordinate with the Barangay Councils to identify local labor po	Prioritize hiring of skilled local residents
	Increase in business opportunities (creation of new enterprise opportunities)	• Coordination with Barangay and Municipal LGUs to ensure proper zoning of business area, peace and order, sanitation, and solid waste management • Explore possibilities to include training opportunities for developing business / livelihood opportunities • Provide assistance in establishing livelihood projects	100% implementation of IEC and SDMP
	Increase in traffic hazards (hauling/delivery trucks)	• Ensure proper parking area for hauling and delivery trucks and ensure compliance. Proper orientation on haulers must always be conducted. Violators must be reprimanded. • Implement Traffic Management Plan with the Barangay/ Municipal LGUs including installation of traffic signs to avoid road accidents; provision of assistance to ensure effectiveness of traffic enforcement	100% implementation of Traffic Management Plan

Activity	Impact	Enhancement/ Mitigating Measure	Efficiency of Measures
		• Long-Term Traffic management plan, in coordination with concerned LGUs and DPWH, will be prepared and implemented to prevent road accidents, which include speed limits, vehicle load limits, vehicle maintenance requirement and limiting driving hours	
	• Generation of Additional Revenue for the Local Government	• Ensure supplies and service providers payment of required payment of taxes and fees • Ensure prompt and timely payment of local taxes and fees	100% payment of taxes and other applicable fees

5.0 LIST OF STAKEHOLDERS

- Provincial Govenrment of Dinagat Islands
- Municipal Government of Libjo
- Covering Barangays: Barangay Bayanihan, San Jose, Garcia, General Aguinaldo and San Antonio
- Non-Government Organizations:
  - Women
  - Youth
  - Senior Citizens
  - Religious Group
  - Farmers
  - Homeowners Association
  - Cooperatives
  - School Head
  - Fishermen