1.0 PROJECT DESCRIPTION

Project Fact Sheet

Project Title	:	COTO CHROMITE PROJECT
Project Location	:	SITIO COTO, BARANGAY TALTAL, MASINLOC ZAMBALES
Nature of the Project	:	MINING/EXTRACTION OF REFRACTORY CHROMITE ORE
Total Area Covered	:	618.11 HECTARES
Coordinates	:	15°34'15" N 120°05'15" E
Production Rate	:	87,900 MT of Chromite Concentrate and 10,000 MT of Lumpy Ore Annually, using underground mining methods
Estimated Manpower	:	309 employees

Project Proponent	:	CONSOLIDATED MINES, INC.
Proponent Address	:	508 State Center II Building Ortigas Ave., Mandaluyong City, Philippines 1555
SEC Registration	:	PW-389
Type of Organization	:	Corporation
Date of Registration	:	November 1933
Authorized Signatory	:	MR. ALLEN ROXAS allenroxas@statepropertiesphil.com
Designation	:	PRESIDENT
Contact Details	:	02-8570-03-95 / 09989675453 doc_bethany@yahoo.com Bethany Soriano

COMPANY PROFILE

Consolidated Mines, Inc. (CMI) was incorporated on November 1933 to consolidate small mining claims in Zambales Mineral Chromite Reservation (ZMCR). The company is currently the holder of two mining tenements, the Coto Chromite Project in ZMCR Zambales and the Mogpog Porphyry Copper Deposit in Marinduque.

Consolidated Mines, Inc.'s office address is at Unit 508, State Center II Building, Ortigas Avenue, Mandaluyong City. The company is registered at the Securities and Exchange Commission (SEC) with SEC Registration number PW-389 and has an Authorized Capital Stock of Php 500,000,000.00. The company has eleven thousand (11,000) Stockholders and represented by its President, Mr. Allen Roxas.

The Board of Directors are as follows:

Mr. Jose P. Magno	- Chairman
Mr. Allen Roxas	- President
Danessa Kim Chrisse G. Lu	- Director/Treasurer
Chern Kwong Ong	- Director
Cecil Bien Sebastian	- Director

The President, Mr. Allen Roxas, is likewise the President of State Properties Corporation (SPC), an entrepreneur with years of business experience in leading his companies in achieving their goals with the

values of concern for honors, respect for trading and loyalty to service.

CMI is being garnished by SPC for years. A four hundred million (Php 400,000,000.00) financial guarantee will back-up CMI's Coto Chromite Project Operation.

In addition to his credential, Mr. Allen Roxas is also the Chairman of Chiang Kai Shek College, Senior Adviser of Federation of Filipino-Chinese Chamber of Commerce and Industry, Inc. and President of Downtown Bankers Association.

CMI's Strategic Directions:

1. Rehabilitate the Coto Chromite Mine and the Mogpog Porphyry Copper Mine.
2. Operate the two mines in a profitable manner.
3. Build a competent and strong organization. Be a responsible company in the communities where we work by upgrading the livelihood of the local people while preserving and restoring the environment.
4. Expand the other mining areas as opportunities arise.

1.1 Project Location and Area

The Consolidated Mines, Inc.'s (CMI's) Coto Chromite Project is located at Sitio Coto, Brgy. Taltal, Masinloc, Zambales. Masinloc town is about 239 kilometers north of Manila. The project site is 27 kilometers east of Baloganon Port. The project site is denominated as APSA 000409-III previously Mineral Production Sharing Agreement (MPSA) No. 006-91- III (**Annex B**). The MPSA area has the following coordinates as its metes and bounds:

Table PD-1. MPSA Coordinates

Corner	Latitude	Longitude
1	15° 34' 15"	120° 05' 15"
2	15° 35' 45"	120° 05' 15"
3	15° 35' 45"	120° 06' 30"
4	15° 34' 15"	120° 06' 30"
Total Area: 618.11 hectares		

Figure PD-1 shows the project location on a topographic map.

Drone Photo of the open pit of ZMCR.

Drone Photo of the Milling Plant.

Drone Photo of Administrative Complex, Warehouse, Maintenance Area and Plaza

Drone Photo of Recreation Areas – Kidz Pool

The direct and indirect impact areas of the project are provided in **Figure PD-2**. The direct impact areas are the MPSA area where the mining facilities and mining activities will take place, along with areas of the access roads. Secondary or indirect impact areas are areas in the immediate vicinity of the designated primary impact areas. **Figure PD-3** is a vicinity map of the Project area.

1.1.1 Project History

The mine was operated by Benguet Corporation (BC) since 1956, by virtue of an Operating Agreement by andbetween CMI, as the mineral claim owner, and BC, as the operator. The 25-year agreement was renewed in 1981 and expired in 2006. BC ceased to be the mining operator since the expiration of the Operating Agreement.

Table PD-2 presents a chronology of the significant agreements relevant to Project:

Table PD-2. Project History

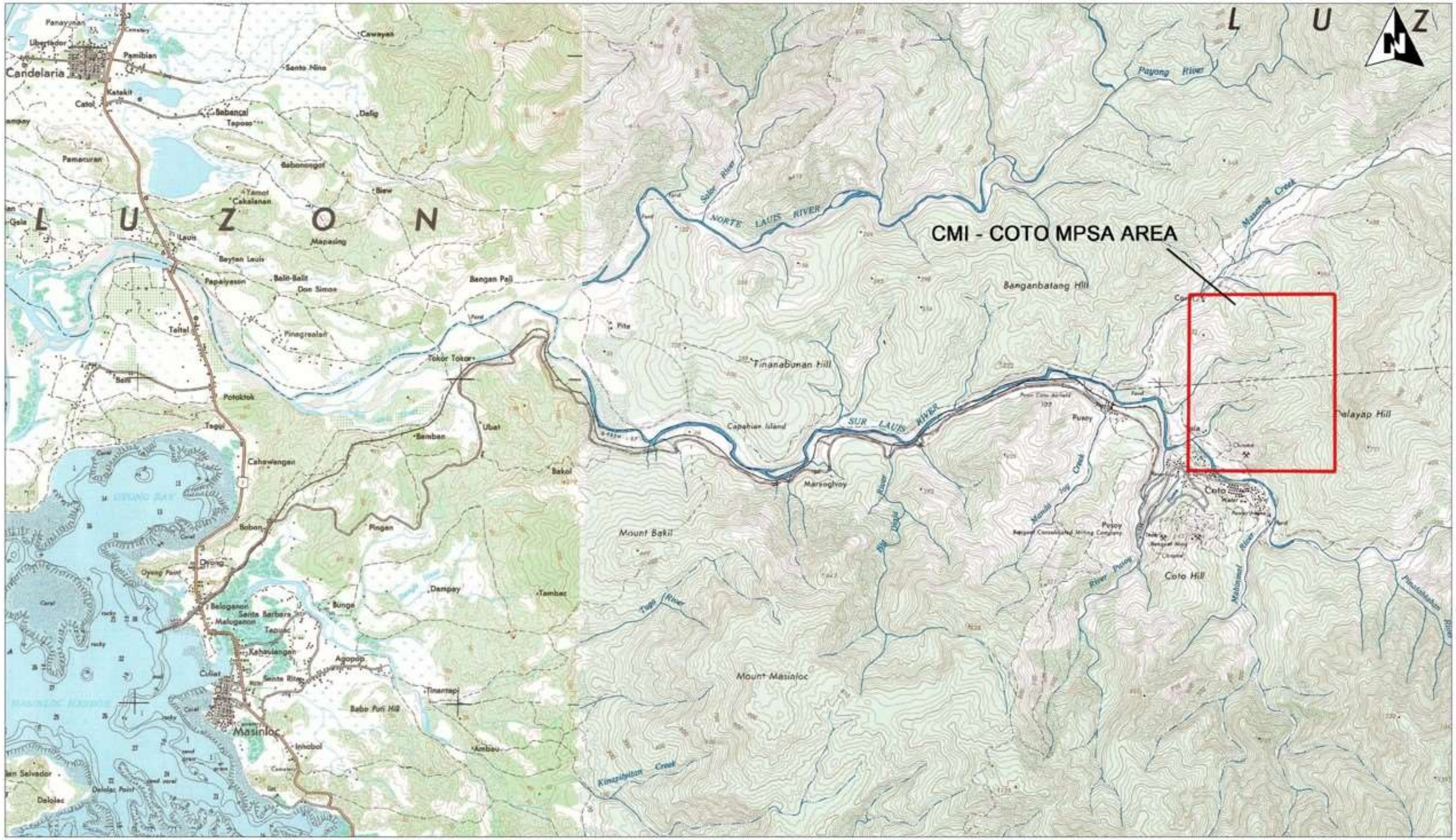
Date	Government Agreements	Agreements with Benguet Corp.
February 1925	Claims covering 1,815.77 hectares registered under PD 463	
April 24,1930	Claims totaling 2,677.22 hectares declared as the Zambales Mineral Chromite Reservation (ZMCR) under Proclamation No. 313	
July 8, 1956		Agreement between CMI (as mineral claim owner) and Benguet Corp. (BC), as operator, for 25 years
June 19, 1959	R.A. No. 2313 was passed providing for the disposition of the mineral lands covered by the ZMCR	
August 9, 1961	CMI was granted a 25-year contract for the operation of ZMCR	
December 5,1975		Deed of Assignment executed between CMI and BC covering the rights, title and interests to 295 mining claims, including Parcel 3 of

Date	Government Agreements	Agreements with Benguet Corp.
		ZMCR
July 1977	DENR approves Deed of Assignment between CMI and BC	
January 8, 1981		CMI and BC renew agreement for another 25 years
August. 8, 1986	25-year contract of CMI to operate ZMCR expires	
February. 28, 1989	Operating contract of CMI was forwarded to DENR but held in abeyance due to the issuance of EO# 279 which allows the DENR Secretary to conclude exploration, development and utilization of mineral resources	
February. 15, 1990		CMI, with BC as its operator, submitted proposal for an MPSA

January 23, 1991	MPSA No. 006-91-III was issued, covering 618.11 hectares in Coto, Zambales. CMI given permission for the exploration, development and commercial production of all chromite deposits within the contract area.	
December 9,2005	DENR issues CNC to BC	
January 7,2006		25-year contract between CMI and BC expires
March 6,2007		BC acknowledges, through a letter, that the Operating Agreement between CMI and BC was no longer going to be renewed.
January 23, 2011	MPSA expired	

1.1.2 Project Status

MPSA No. 006-91-III expired on January 23, 2011. CMI has applied for the renewal of the MPSA and as part of the renewal process, an Environmental Compliance Certificate (ECC) was required by the Mines andGeosciences Bureau (MGB). This Project Description thus prepared in compliance with DAO-2003-30.



CONSOLIDATED MINES, INC.

FIGURE PD-1

ENVIRONMENTAL IMPACT STATEMENT
CONSOLIDATED MINES, INC.
COTO CHROMITE PROJECT
TOPOGRAPHIC MAP

SCALE:

SOURCE:
NAMRIA MAP SHEET NOS.
7074-III & 6974-II,1979

PAGE NO.:
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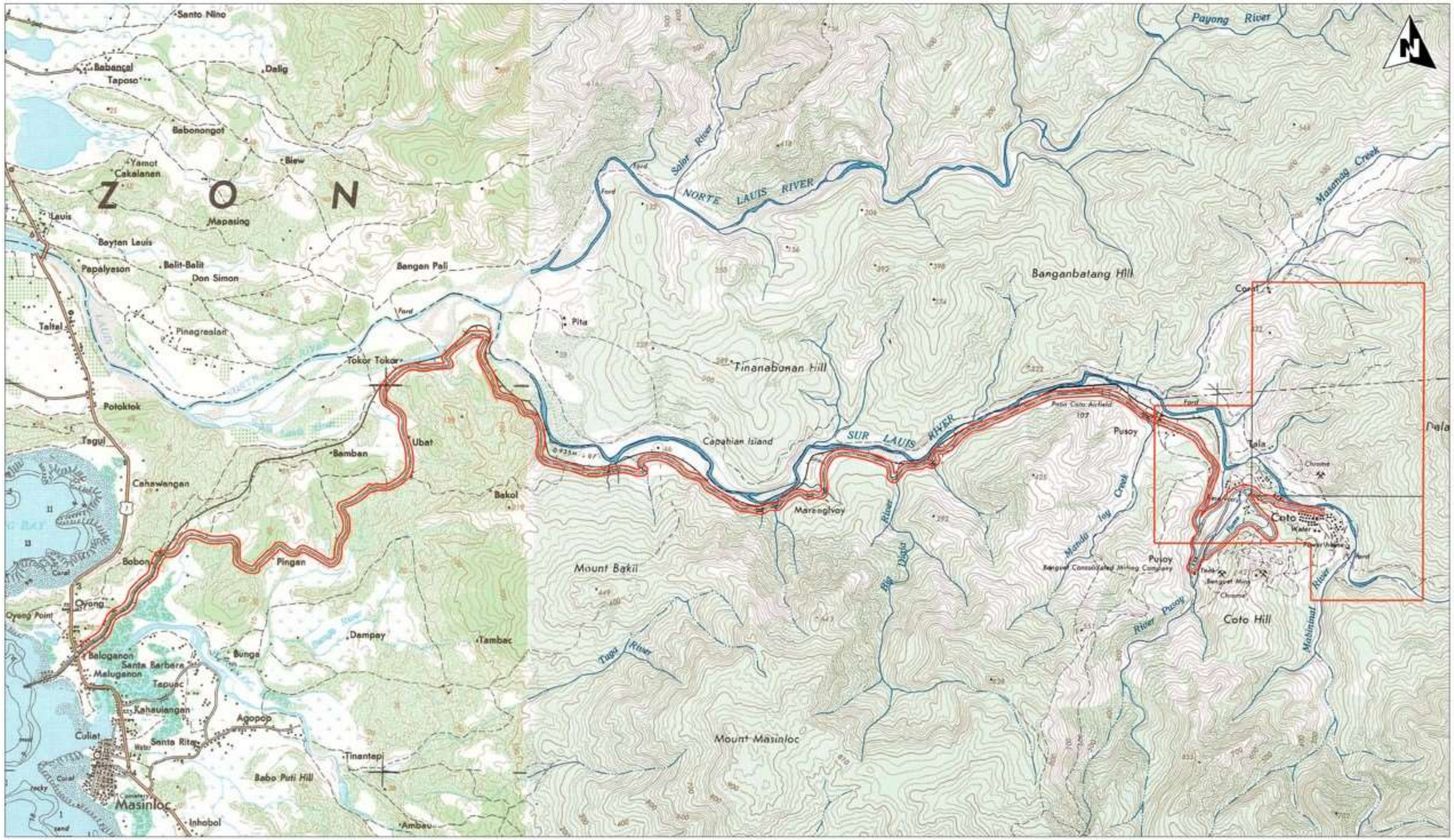

CONSOLIDATED MINES, INC.

FIGURE PD-2

ENVIRONMENTAL IMPACT STATEMENT
CONSOLIDATED MINES, INC.
COTO CHROMITE PROJECT
PRIMARY IMPACT MAP

SCALE:

SOURCE:
NAMRIA MAP SHEET NOS.
7074-III & 6974-II, 1979

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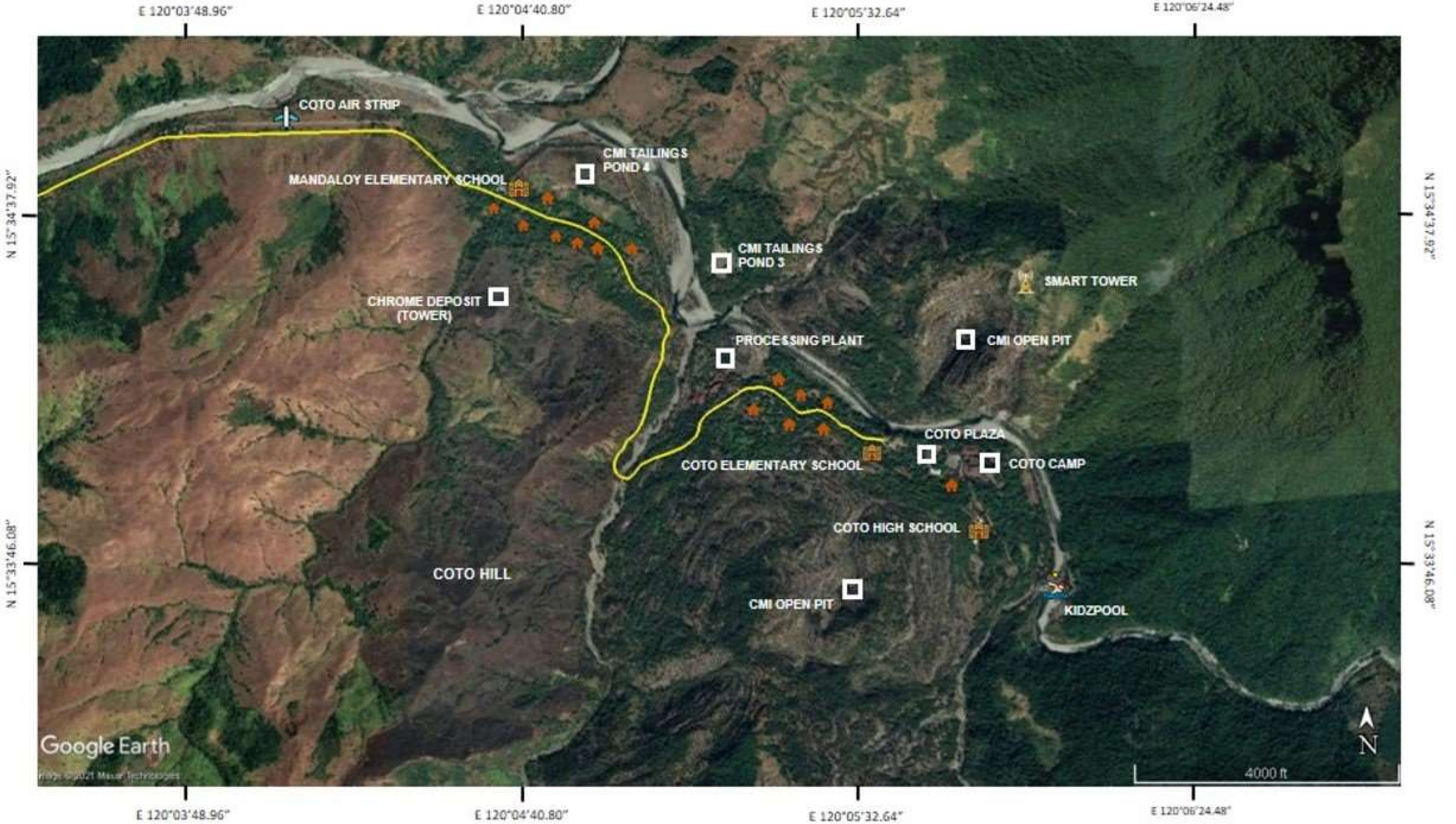

CONSOLIDATED MINES, INC.	FIGURE PD-3

ENVIRONMENTAL IMPACT STATEMENT
CONSOLIDATED MINES, INC.
COTO CHROMITE PROJECT
CMI VICINITY MAP

SCALE:	SOURCE:	PAGE NO.:
	GOOGLE EARTH, 2021 BC-MCO (SITE DEV. MAP), 1882	17

1.2 Project Rationale

The Philippines is one of the world's richly endowed countries in terms of mineral resources. As of 1996, the country's estimated level of metallic reserves was placed at about 7 billion metric tons (www.nscb.gov.ph). Some of the important metallic minerals found in abundance in various parts of the country include gold, copper, iron, chromite, nickel, cobalt and platinum. The country's refractory chromite resource in Zambales is considered as one of the largest in the world.

From 1988 to 1990 most of the chromite-producing companies in the Philippines experienced a relative boom.However, starting 1991, a downtrend was experienced as a result of the volcanic eruption of Mt. Pinatubo that disabled service roads and affected the transport of the chromite produce from Zambales. Power shortages experienced by the whole country then, also affected the operations of most chromite mining companies in thesucceeding years.

In line with the policy, Consolidated Mines, Inc. (CMI) will revive the mining of chromite ore at Sitio Coto, Brgy. Taltal, Masinloc, Zambales. The aim of the project is to produce 87,900 MT of chromite concentrate and 10,000 MT of lumpy ore annually, using underground mining methods. The output will be for domestic and foreign use, particularly in metal foundries and other refractory uses. Export prices of Philippine chromite have been increasing, following the trend of world prices. As of April 2021, the average price of chromite ore was at US$ 160/MT.

The Project also coincides with the strong demand for chromite ore from China and the rest of the world. CMIintends to capitalize on this increasing demand. The site is a government-established mineral reserve area and with the renewal of the MPSA, utilization of the resources will generate income, not only for the government but for the host community as well. The site has been classified as a mining area in the Municipality of Masinloc'sland use plan, thus posing no land use conflict.

The government will benefit from the revenues of the mining operation and the sale of mine produce in the form of sales tax, excise tax, occupation fees, income tax, value added tax, sale or purchase of lands, licenses, permits, regulatory fees and other dues from the operator, landowners, contractors and employees.

The resumption of mining operations in Sitio Coto, will also provide livelihood opportunities for residents of the host community. New demands will be created and will generate opportunities to the locality to replenish and sustain the needs of the operations and its workers. Sustainable benefits to the local community, beyondthe life of the project, are also envisioned, through the social development programs that will include initiation of appropriate alternative livelihood development activities.

1.3 Project Alternatives

The remaining ore bodies within APSA 000409 will be mined and no new sites or alternative sites wereconsidered. The project will not deviate from the method of extraction and recovery employed by the previousoperator. The proposed mining method, underhand cut and fill method, is the most suitable for ore deposits with poor ground conditions.

CMI has opted to retain the facilities in their present locations since these withstood the 7.8 magnitude earthquake in 1990, as well as the eruption of Mt. Pinatubo in 1991.

Additionally, relocation of the mill plant is presently not an option since the cost to relocate may affect the profitability of the project. The mill plant process used by BC is an appropriate method for refractory chromite and will therefore also be used by CMI. The mill will utilize crushing, grinding, manual picking, sizing, and heavy media separation processes to segregate the chromite fines from the residual waste material. No chemicals or reagents will be used. The only alternative process to recover the chromite is by manual sorting, which is laborious and has very low efficiency.

The project will utilize the haul roads that were used by BC since the 1950's and which are presently being used by residents.

Alternative measures for the prevention of the occurrence of major impacts include:

- Re-vegetation of surface mined out areas proximal to the mine area.
- Ponding of water output from the mill for 12 hours before discharging it to the Sur Lawis River.
- Monthly maintenance of drainage canals and waterways.

Underground mining operations pose very minimal effects on surface conditions. Though ground subsidence would be an issue, the mining method selected for the ore deposit necessitates that the mined-out areas are backfilled immediately for safety purposes and to maintain the integrity of the openings.

There's no available data for the exact number of residents in Sitio Coto and Sitio Mandaloy. However, CMI Team depends on the perception survey count. Following are the criteria used in determining project options.

The Project Site Alternative considered the accessibility to utilities and human settlement as among the factors significant in the selection of the project site. The proponent conducted community survey in the proposed project area to gauge community's perception of the project, an initial perception survey was conducted in Barangay Taltal, at Sitio Coto and at Sitio Mandaloy around the proposed project area.

The survey was conducted from April 29-May 1, 2021. A total of 40 respondents were surveyed with 55% of the total respondents are located at Sitio Coto, Barangay Taltal. This area is considered as the primary impact area. For the secondary impact, Sitio Mandaloy, where 18 Households were surveyed or at 45% and gave their complete information.

Figure 1. Impact Communities (Insert Map of Impact Community)

Profile of Respondents as to the Sex

	Sitio Coto	%	Sitio Mandaloy	%
Male	13	48.15	5	38.46
Female	14	51.85	8	61.54
Total	27	100	13	100

Profile Respondents as to Occupation

	Sitio Coto	%	Sitio Mandaloy	%
No Work	17	62.96	6	46.15
Gov't/Private Emp	2	7.41	2	15.39
Labor /Skilled	1	3.70		0
Self Employed	7	25.93	5	38.46
Driver	0	0		0
Barangay Official	0	0		0
Total	27	100	13	100

Profile Respondents as to Monthly Income

	Sitio Coto	%	Sitio Mandaloy	%
No Income	14	51.85	4	30.77
0-5,000.00	3	11.11	7	53.85
6,000-10,000.00	8	29.63	1	7.69
10,000-above	2	7.41	1	7.69
Total	27	100	13	100

Profile Respondents as to Religion

	Sitio Coto	%	Sitio Mandaloy	%
Catholic	16	59.26	6	46.15
Protestant	3	11.11	2	15.39
Muslim	0	0		0
Iglesias	0	0		0
Muslim/Others	8	29.63	5	38.46
Total	27	100	13	100

Profile Respondents as to Education Attainment

	Sitio Coto	%	Sitio Mandaloy	%
None	0	0		0
Elementary	3	11.11	1	7.69
High School	15	55.56	8	61.54
Vocational	3	11.11		0
College	6	22.22	4	30.77
Total	27	100	13	100

Project Awareness/Perception

Awareness for proposed Project

Awareness	Sitio Coto	%	Sitio Mandaloy	%
Yes	19	70.37	6	46.15
No	8	29.63	7	53.85
Total	27	100	13	100

Majority of the respondents usually source their information from friends and relatives, while 100 percent revealed that they get information on the company's plans and other sources (Table 9).

Source of Information

Sources	Count	%
Government/Brgy Officials	0	0
Relatives/Friends/Neighbor	0	0
Proponent	40	100
Meetings/Consultations	0	0
Observations	0	0
Total	40	100

Possible Social and Environmental Effects of the Proposed Project

All respondents believe that the proposed project will increase employment opportunities preferably to qualified members of their respective families. Being locals within the host barangay and the impacted surrounding communities, priority of employment be vested on them.

Positive Effects Social and Environmental effects of proposed project

Positive Effects	Coto	%	Mandaloy	%
Increase employment	21	77.78	13	100
Increase business/establishment of business	0	0	0	0
Progress in barangay on social development	4	14.82	0	0
Improved public service	0	0	0	0
No positive effect	1	3.70	0	0
No idea	1	3.70	0	0
Total	27	100	13	100

Respondents also considered by overall growth and progress of their respective barangays, like the growth and stability of businesses conceivably brought about by the spending ability of the employed locals, plus the growth of ancillary support services in the area like transport, accommodation, food chains and many more.

Negative effects of the proposed project

Negative Effects	Sitio Coto	%	Sitio Mandaloy	%
Loss of Property	1	3.7	0	
Pollution to water	1 (1)	3.7	3 (1)	23.08
Erosion of Soil	2	7.41	1 (2)	7.69
Forest Fire	1	3.7	0	0
Pollution to air	0	0	0	0
Removal of trees and other vegetation	1	3.7	1	7.69

Removal of fishing grounds and other river areas	0	0	0	0
Loss of work and livelihood opportunities	2 (1)	7.41	1	7.69
Health Problems	0	0		0
No negative effect	10	37.05	2	15.39
No idea	3	11.11	5	38.46
Roof of house deteriorate easily	0	0	0	0
Unstable Relationship	6	22.22	0	0
		100		100


Shot on Y11
Vivo AI camera


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1.4 Project Components

1.4.1 Commodity/Resource

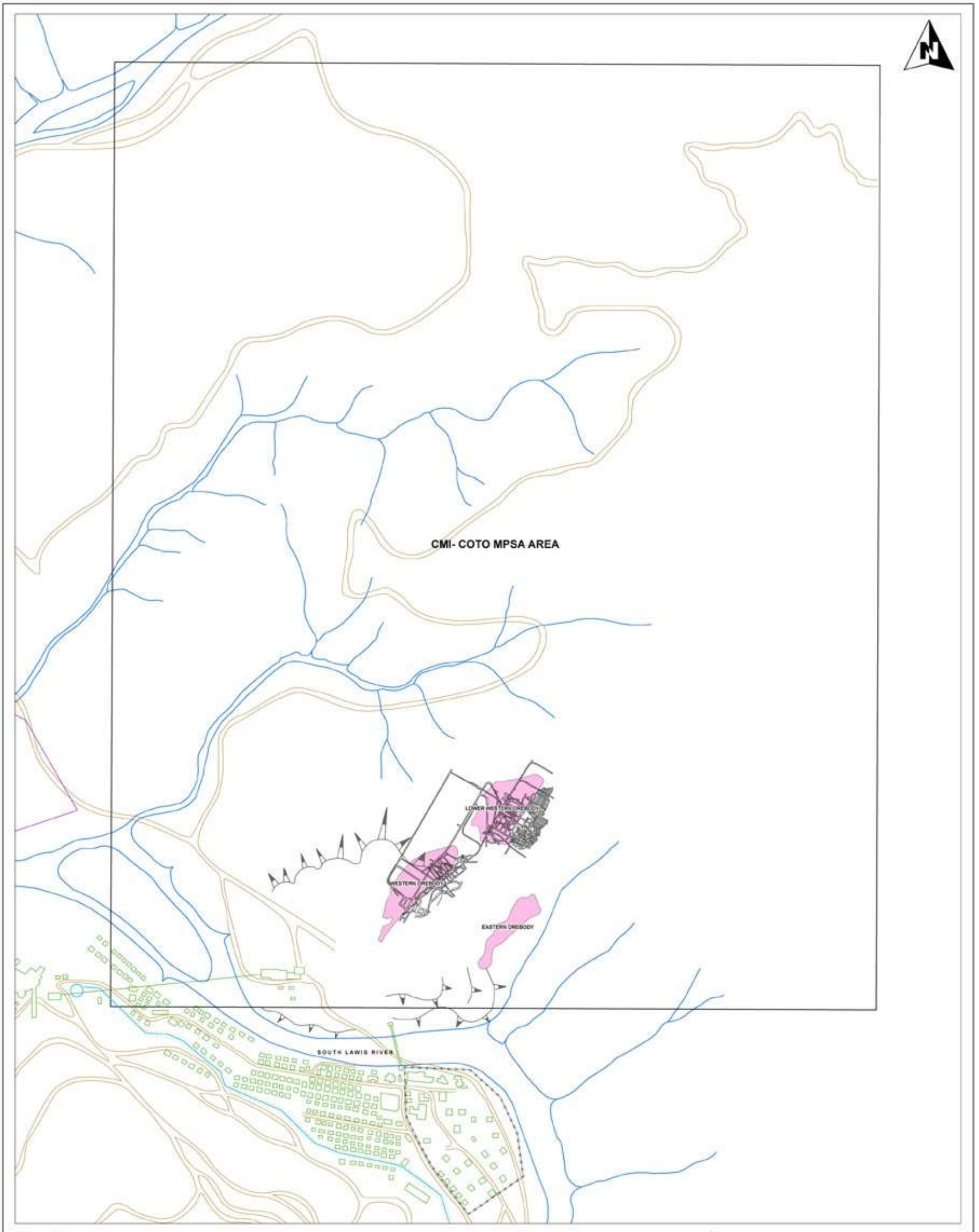
Chromium is one of modern industry's most essential and versatile elements. It is an important metal and has a wide range of uses in the metallurgical, chemical and refractory industries. Chromium's uses in the manufacture of iron, steel and non-ferrous alloys are three (3) of its more important applications. In the manufacture of steel, it is used to induce hardness, toughness and chemical resistance (Geology.com). Other applications are in plating of metals, pigments, leather processing, and in catalysts.

Chromite is the most important ore of chromium, from which it derives its name. The mineral chromite, consistsof varying percentages of chromium, iron, aluminum and magnesium oxides.

Chromite ore and concentrates are further classified into 3 categories. These are ore and concentrates containing not more than 40% Cr_2O_3 (refractory industry); ore containing more than 40% Cr_2O_3 but less than 46% Cr_2O_3 (refractory, chemical and metallurgical industry); and ores with 46% or more Cr_2O_3 (metallurgical and chemical industries).

The Project will mine and produce refractory chromite concentrate and lumpy ore. The refractory chromite reserves inventory as of 2001, according to the MGB, was approximated at 2,571,380 MT, averaging 34.56%Cr_2O_3 and 4.6% SiO_2. However, recent resource validations estimate the reserves at 1,302,677 MT. The recent assessment will be the basis of discussions in this report.

Figure PD-4 shows the locations of the ore reserves within the APSA area.



Legend:

- Tailings Pond / Stockpile Area
- Orebodies
- Building
- River
- Road
- Flume Line
- Mine Workings
- Waste Dump
- Bridge
- Perimeter Fence

CONSOLIDATED MINES, INC.

FIGURE PD-4

ENVIRONMENTAL IMPACT STATEMENT
CONSOLIDATED MINES, INC.
COTO CHROMITE PROJECT
MAP SHOWING CMI - MPSA AREA & OREBODIES

SCALE: 0 100 200 300 400 Meters

SOURCE: BC-MCO, 1992

1.4.2 Project Components List

The main facilities for the project include:

Mill Plant
- Crusher
- Scale house
- Assay laboratory
- Fine's plant

Water Supply Facility
- Reservoir
- Flume line

Power Supply Area
- Substation
- Gensets
- Fuel Storage area

Warehouse

Administration Complex
- Accounting Office
- Clinic
- Personnel Office
- Electrical and Mechanical Office

Maintenance Area
- Motor pool
- Carpentry Shop
- Fabrication Shop
- Nursery

Housing Facilities
- Staff Housing
- Staff Mess

Explosives Magazine

Kids Pool/Recreation Area

Product and Waste Stockpiles area

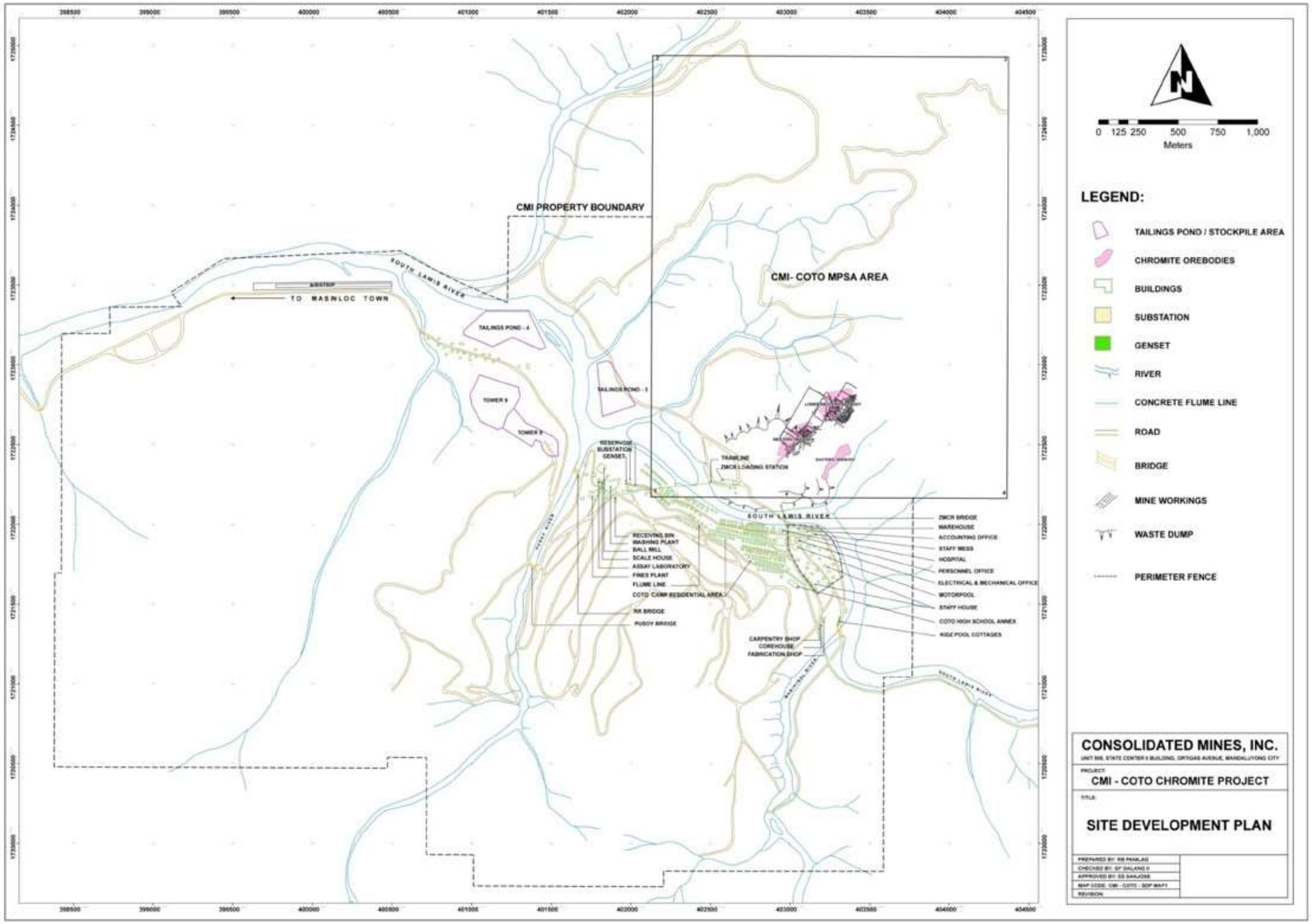
Sand-Cement Plant

Planned development sites, housing facilities, process plant location and other facilities are shown in **Figure PD- 5.**

1.4.3 Pollution Control Facilities

The facilities, equipment and areas established to prevent pollution to the surrounding environment will include:

- Tailing storages – Wastewater from the mill processing plant will be conveyed through a pipeline into thetailings pond to allow the sedimentation of solid particles from the wastewater. The tailings pond will be located on a stable area along the Sur Lawis River. Dewatering will be an important part of pond storage. As tailings are added to the tailings pond, the water is removed by draining into decanting structures. The water removed can thus be reused for other purposes or discharged into the river. Seepage control measures will be established to ensure that the facility remains stable and environmental regulations are not compromised. Embankment barriers will be constructed to hinder seepage passing through the containment area and into the environment. Visual inspection of the tailing facility will be conducted regularly. The ponded water shall also be subjected to regular watertesting. The coarse tailings will be utilized for filling purposes for road building, construction and backfilling, while the sand and silt will be hauled to the batching plant as mixture for the cement fill used in backfilling mined-out areas. Once the storages are filled and completed, the surface will be covered with topsoil and revegetation commenced.
- Drainage system and sedimentation control – During mining underground, a certain volume of water will be liberated into the mine workings. CMI will develop sediment control measures for an effective minesite water drainage system. The management of suspended residue will be through the construction of sedimentation on a strategic area along a drainage canal leading to Sur Lawis River. The sediment containment will be constructed to catch run-off and hold the water while soil and debris in the water will be disposed of on-site in the tailing impoundment. CMI will consider provisions to protect the drainage system from failure due to run-off events that may exceed the capacity. The canals and sediment containment shall also be readily accessible for periodic inspection and maintenance. The mine water shall also be subjected to periodic water testing.



CONSOLIDATED MINES, INC.

FIGURE PD-5

ENVIRONMENTAL IMPACT STATEMENT
CONSOLIDATED MINES, INC.
COTO CHROMITE PROJECT
SITE DEVELOPMENT MAP

SCALE:	SOURCE:	PAGE NO.:
AS SHOWN	BC-MCO, 1992	20

- Oil-water separator – To manage hydrocarbon leaks and spills, an oil-water separator will be installed in the motor pool area where the wastewater can be discharged as effluent while the oil can be pooled together to be sold to recyclers.
- Solid waste management facility – The solid waste management plan of the project will employ the "3Rs" - reduce, reuse, and recycle. This is to extract maximum benefits from waste products in order togenerate the minimum amount of waste. The plan would involve the following:
    - Provision of compost pits for biodegradable waste and the compost to be used by the residents as fertilizer for vegetable gardens.
    - Recycling or recovery of solid waste materials such as paper, refuse from repair shops, tires, batteries, for other alternative uses and to be sold to prospective buyers from the nearby barangays.
    - Provision of garbage disposal sites for wastes that cannot be recycled or cannot be composted.
    - Waste segregation at the source – Provision of separate waste bins for plastic, proper biodegradable and hazardous waste.

1.4.4 Water and Power Supply

Power consumption for the mine operations is estimated at 4.7 MW per annum. CMI is presently studying various options for its power supply. Two of the options are 1) from ZAMECO or 2) from AES Masinloc PowerPlant. In either case, CMI will rehabilitate the existing 2.5 MW GENSET and 2 units Komatsu LTD Japan M# SAGD170-A-1 to be used as back-up power source during times when power supply from the preferred source will be unavailable.

Domestic and industrial water supply will come from Sur Lawis River. Water requirement for the milling operation is computed at 30 cu.m. per day. CMI will also look into using groundwater resources.

1.4.5 Access/Transportation

The mine site is accessible by land via a five-hour drive from Manila, through the North Luzon Expressway (NLEX) and through highways that pass the provinces of Pampanga and Bataan and ten (10) coastal towns ofZambales. Travel time is lessened by at least one (1) hour when the Subic-Clark-Tarlac Expressway (SCTEX)route is used, since it bypasses Bataan and Pampanga, exiting in Subic, Zambales. From the provincial highway of Masinloc, Zambales, there is a 26-kilometer access road to the site.

Coto may also be reached by air using private planes. The flight is estimated at 50 minutes from NAIA to the airstrip at the mine site.

1.4.6 Housing

CMI will provide staff houses for selected key personnel within the project site. There are existing accommodations at the project site and these will be assessed to determine if they require rehabilitation or whether new structures will need to be built.

1.5 Process Description

1.5.1 Mining Method

Benguet Corporation operated the mine using an open pit mining method until 1981. Subsequently, as the ore became deeper, it shifted to an underground mining method, specifically employing underhand cut and fill and using load-haul-dump (LHD). CMI will use the same method.

Underhand cut and fill method of mining (**Figure PD-6**) is defined as mining by sublevels, in a downward manner, by cutting a series of horizontal panels with an average dimension of 3.5 meters by 3 meters. The chromite ore in the defined horizontal slices is drilled, blasted, loaded and hauled from the stope, which is then backfilled with cement fill. The process continues downward using the cemented filling material as the back of the stopes in succeeding cuts and slices. Tailings from the mill plant are mixed with cement to form a paste fill that is used to fill in the mined-out areas or stopes.

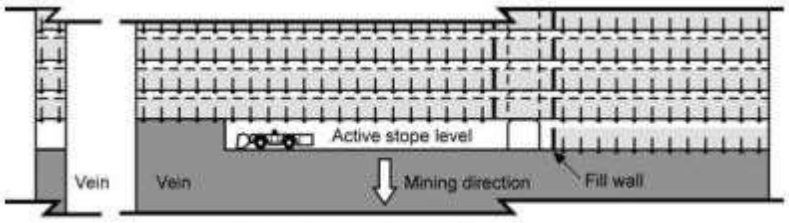


Figure PD-6. Underhand Cut and Fill Mining

1.5.1.1 Drilling and Blasting Activities

Chromite is a dense ore and requires drilling and blasting to break and penetrate in order to drive and developadits, drifts, and tunnels. Pneumatic air leg rock drills will be used to drill blast holes.

CMI will be utilizing 'Burn cut' pattern as standard drilling pattern to drive advances, drifts and ramps. Burn cut employs a series of parallel holes drilled closely spaced at right angles to the face. Drill holes will be driven using a single boom Jumbo Drill. A typical burn cut pattern in driving production panels and ramps will have 36 or more holes with one hole or more at the center of the face uncharged, as shown in **Figure PD-7**. The uncharged holes will form a zone of weakness that will assist the adjacent charged holes in breaking out the ground.

Blasting will be done using ANFO-based explosives. An estimated 13kg to 14kg of dynamite will be used for every meter of advance. Annual consumption of explosives will range from 58,000kg to 63,000kg. This will besourced from local manufacturers/suppliers (e.g., Orica Philippines, Dyno Nobel, Conex and Mt. Rock PowderCorporation). Blasting materials will be stored at the Explosives Magazine.

At present, the working level is at -30 meters. The mine operation shall be in 3 shifts per day, with 6 to 10 blasts per shift, resulting in about 18 to 30 blasts per day. To meet the projected production target, a minimum advance of 15 meters/day will need to be achieved by the daily blasting activities. A total of 10 pneumatic air leg rock drills will be used for both production and development.

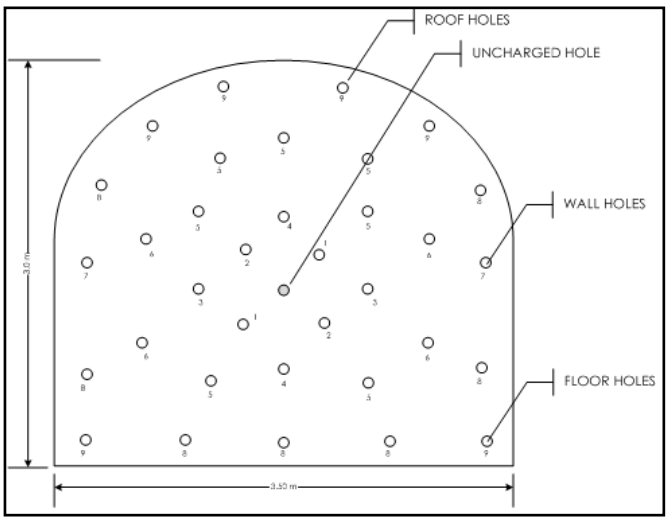


Figure PD-7. Firing sequence of a typical 'Burn Cut' pattern, with millisecond delays

1.5.1.2 Loading and Hauling

The blasted materials from the production panels or development areas will be loaded to Low Profile Trucks (LPTs) using Load Haul Dump units (LHDs). The bucket capacity of the LHD is 3MT. LPTs have a payload capacity ranging from 10MT to 15MT. The project will use 3 LHDs, 6 LPTs (15 Tonner) and 2 buggies (10 Tonner).

Production lines that intersect across the production panels will serve as ramps or as hauling access for LHDsand LPTs. The width of the production lines may range from 3m to 4m.

1.5.1.3 Back-filling of the Stopes

Mines using the underhand cut and fill method use slightly different back fill methods but all have the same goal of backfill stability. Mining cannot proceed unless backfill is sufficiently stable. The fill supports the stope walls and serves as a stable back. The maintenance of a consistent fill quality is an important aspect of this mining method. Adjacent pillars are robbed after the cement fill materials have hardened, normally within five (5) days.Allowing the fill to harden sufficiently ensures that the stope will not collapse during blasting in the active stope underneath.

Recovered mill waste materials are used for underground backfilling of mined-out production panels. These are mixed with cement to form a paste fill. The paste fill will consist of 10% to 12% cement, which is conveyed to the mined stopes by gravity through a 4-inch diameter pipe that is reduced to a 2-inch pipe underground. The cement-mixed backfill delivery systems deliver in medium density slurry, in which the fine cement particles aresuspended in excess water that is then decanted.

Approximately 1.9MT to 2.0MT of cement, to be sourced locally, will be used for the paste fill. Additionally, CMI will look into operating its own batching plant.

1.5.1.4 Production and Development

With it its daily target, the project needs to have five (5) active production panels with a dimension of 3.5m x 3m. In order to meet the run-of-mine (ROM) requirement of 500 TPD, the mine will operate in three (3) shifts, witheach shift producing at least 33.33 MT of ore.

1.5.1.5 Ventilation

Existing ventilation facilities will be maintained. The main ventilation system is located at Level 225 and uses the ramp to draw fresh air to the active areas via the main shaft. The main shaft doubles as the access for tube line used in dewatering the mine. The estimated fresh air requirement in the underground when the project operates at maximum capacity is 228,000 CFM. It is computed that the operation will require additional 3 units of 200 HP blowers for both intake and exhaust and utilize a series of 40HP blowers as boosters, either for intake or exhaust to offset the pressure losses. An additional ventilation shaft will be driven proximal to the LWOB.

Equipment	Intake Air Requirement (CFM)
LHD	24,000.00
LPT	150,000.00
Shotcrete Mixer	8,500.00
Jumbo Drill	10,000.00
Personnel	36,000.00
Total	228,500.00

1.5.1.6 Timbering Support

CMI will utilize a combination of timber support, wire mesh, rock bolting, shotcreting, and steel-set support to address lose ground, that poses risks to the workers and the operation in general. Timber sets and wire mesh will be used primarily in production areas, while rock bolting, concreting, and steel-set support will be used onmain cross cuts and haul roads.

1.5.1.7 Other Activities

Underground mine water will be pumped out in stages from a pump room at Level +225. Water from various levels will be pumped to sump sites (also at various levels) and eventually released to an impounding area at the surface. Water at the impounding area will be tested and treated, if required. Clear effluents at the rate of 15 cubic meters per day will then be discharged into the Sur Lawis River. Water supply for underground mine requirements will come from creeks through pipelines that will deliver water by gravity.

1.5.2 Milling Process

ROM ore is initially washed in the washing plant where lump wastes are manually picked at the picking belt to segregate them from the chromite ore. Lump ores are then crushed and screened into the desired product sizes. Chromite concentration is done using a heavy media separation process for +10 mesh products and a jiggingprocess for -10 mesh products. Chromite product concentrate is conveyed to the production bin after the separation process for stockpiling.

Water for the processing plant comes from Sur Lawis River, conveyed through a concrete flume line and deliveredby gravity. Non-recoverable wastes are conveyed through a pipeline towards the tailings pond. Decanted water from the tailings pond, after treatment, will be discharged back to the river downstream at the rate of 30 cubic meter per day.

The milling process uses water to wash the crushed lump ores. The crushed lump ores will be brought to a double deck screen that will segregate chromite concentrate from mill wastes. Ferrosilicon is introduced into the process to separate the mill tailings waste from the chromite concentrate. No other chemicals will be used in this process.

The various activities occurring during the milling process are described in the succeeding sections.

The milling process flow sheet is shown in **Figure PD-8**.

1.5.2.1 Receiving of ROM Ore

ROM ore from the 5 production panels may be classified either as high silica (hi-sil) or as low-silica (low sil) ore. As such, there will be separate bins to receive each type. There will also be separate bins to serve as backup to prevent stoppage of delivery to the mill that may result in low production.

1.5.2.2 Hand Cobbing and Classifying

The received ore will pass through an 8" grizzly screen. Here, the undersize ore goes directly to storage binswhile the oversize ore goes to the hand cobbing section. The undersize ores from the storage bins are fed directly by feeders to a 4 x 8 scalp screen with 2.75" round openings.

The oversize ore will go to a picking belt while the undersize ore passes through a 4 x 10 double deck screenwith 5/16" openings. The oversize ore is directly fed to a Heavy Media Separator (HMS) to produce lumpy ore.Part of the lumpy ore produced will still undergo crushing, for further concentration. Waste coming from the HMS will be conveyed to the waste stockpile.

The undersize ore from the 4 x 10 double deck screen will be fed as miscellaneous fines feed to a classifier. The classified material will go directly to the 1000-ton capacity bin. The classifier overflow will pass through 3-24" door clones. Overflow will be discarded as waste and the underflow will pass through a 1-4 x 8 vibrating screen, washing away organic materials. The underflow will go directly to 1-36" classifier for processing into concentrate.

The product of the hand cobbing operations is chromite, called metallurgical blend, and waste that will be brought to the waste stockpile. Big-sized chromite ores produced from hand cobbing will pass through the crushing process for further processing.

1.5.2.3 Vibrating Screens and Washing

Ore coming from the receiving bins flow to two (2) vibrating screens. The oversize ore flows directly to the picking belt while the undersize flows directly to the HMS. In these screens, highly pressurized water is introduced to wash the ore.

1.5.2.4 Picking Belt

In the Picking Belt, professional hand pickers segregate waste and lumpy ores. Lumpy ores are high-grade direct shipping ores. Lumpy ores normally pass through the picking belt with few amounts of waste. Another pickingbelt will be used to double-check the purity of the ores. The waste will be segregated to avoid dilution, while the lumpy ore goes directly to the chutes.

1.5.2.5 Crushing

The project will utilize a three-stage crushing process. In the first stage, chromite ore coming from the receiving bin will be conveyed directly to a jaw crusher. The jaw crusher has a screen to separate the ore into sizes of +10 and -10. The oversize +10 ore will undergo subsequent crushing using 1-36" cone crusher while the -10-meshundersize is further crushed using 1-24" and 2-24" cone crushers. The undersize sand product goes to a 400-ton bin. The sand product will be subjected to further screening and heavy media separation. The +10 hi-sil ore goes back to the jaw crusher for further crushing. The fines product goes directly to a classifier. In the crushing operation, an employee will be assigned as a "watcher" to monitor the feeder rate and fill volume to avoid orespillage.

1.5.2.6 Fines Plant and Heavy Media Separation

The sand coming from 1000-ton bin and from the two 400-ton bins will combine as feed to a 5 x 16 vibrating screen with an opening of +10 mesh. The oversize ore of the 5 x 16 screen will pass through the HMS Cone Separator. The product concentrates will be +10 mesh regular, fine lump and +10 mesh hi-sil. The +10 mesh hi- sil goes back to the jaw crusher and cone crushers for further crushing. The undersize of the 5 x 16 vibrating screen, -10 mesh will pass through another 5 x 16 vibrating screen for subsequent screenings with 45-mesh and 65-mesh openings. The oversize will go to 28-Yubb Jig M-8, while the undersize will pass through a 1-36" classifier, the underflow sand will pass through a 12-Riechert Spiral, the final products of which will be sand and tails. The tails will go back to the Yubb Jigs for further processing. The final product of the Yubb Jigs is -10 mesh concentrate.

The overflow of the classifier will go to the Krebs D-20. The underflow of the Krebs D-20 will combine with theunderflow of the Krebs O-15 B as Rougher's Spiral's feed. The classifier overflow feed of the Krebs O-15 B directly comes from the fine undersize of the 1-36" Short Head Cone Crusher and 1-24/1-24 Standard SymonsCone Crushers.

The tailings of the Rougher Spirals will pass through the primary Constructed Plate Classifier, and then will pass through the Rougher Tables. The output of the rougher tables will be tailings, which will go directly to the sandfill, concentrates, and midlings. The rougher table concentrate will pass through the secondary Constructed PlateClassifier then to a cleaner table. The outputs of the cleaner tables are also concentrates, midlings and tailings. Midlings will flow back to the secondary Constructed Plate Classifier, while the tailings of the cleaner table will flow back to the primary Constructed Plate Classifier for further processing. On the other hand, the rougher table midlings will flow back to rougher spiral for further processing.

The concentrate product of the rougher spiral will pass through cleaner spirals, then to a re-cleaner spiral and lastly, through a finisher spiral. The final product is lo-sil chromite concentrate. The tailings produced by both re- cleaner and finisher spiral will flow to the second constructed plate. The concentrate produced by both cleanertables and finisher spiral will combine as lo-sil chromite concentrate.

Photos of some of the equipment that will be used in the mining and milling process are shown in **Annex C**.

1.5.3 Material Balance

The from the daily ore production of 500 TPD, the Run-Of-Mine-Ore is dumped through an 8" grizzly. The oversize goes to hand cobbing process while the undersize ores go to a storage bins which feed the ores directly Scalp Screen. The oversize ore goes to a picking belt while the undersize estimated at 466.67MT passes through adouble deck Screen. The oversize, estimated at 33.33MT classified as a final product called Lumpy Ore.

The 300MT undersize ore from the double deck screen will be fed as fines to a classifier. The sand will go directly to the 1000-ton capacity bin while overflow estimated at 90MT will pass through a cyclone. The overflow from the cyclone estimated at 23.33MT will be discarded as waste. The remaining 66.67MT underflow will pass through a vibrating screen to wash away any organic materials. The 50MT overflow goes directly to a 65-meshscreen. The -65 sand is directed to another cyclone with other -65 mesh sands. The over flow estimated at 33.33MT is classified as tails while the underflow is classified as Lo-Sil Product.

From the washing plant the 66.67 is further crushed using a jaw crusher and further crushed using a cone crusher along with the 100MT product from the Heavy Media Separator (HMS). The product from the cone crusher is mixed with the 210MT underflow output from the washing plant. The 376.67MT plus the 16.67MT output from the +65 Mesh is further screened in -10. The oversize or +10 sized products estimated at 83.33MT is fed to a cone separator to separate further the tails. The final +10 sized output is further classified as Regularconcentrate product which is estimated to total 66.67MT. The 167.67MT will be transported and dump along with other tail products. The -10 + 65M products undergo another cyclone process the overflow estimated at 40MT as

tails and the underflow, 76.67MT along with product from the spiral classifier, estimated at 50MT will pass through a jig. The final 110MT output is classified as -10 product while the remaining 16.67 is laundered as waste. The material balance diagram is shown in **Figure PD-9.**

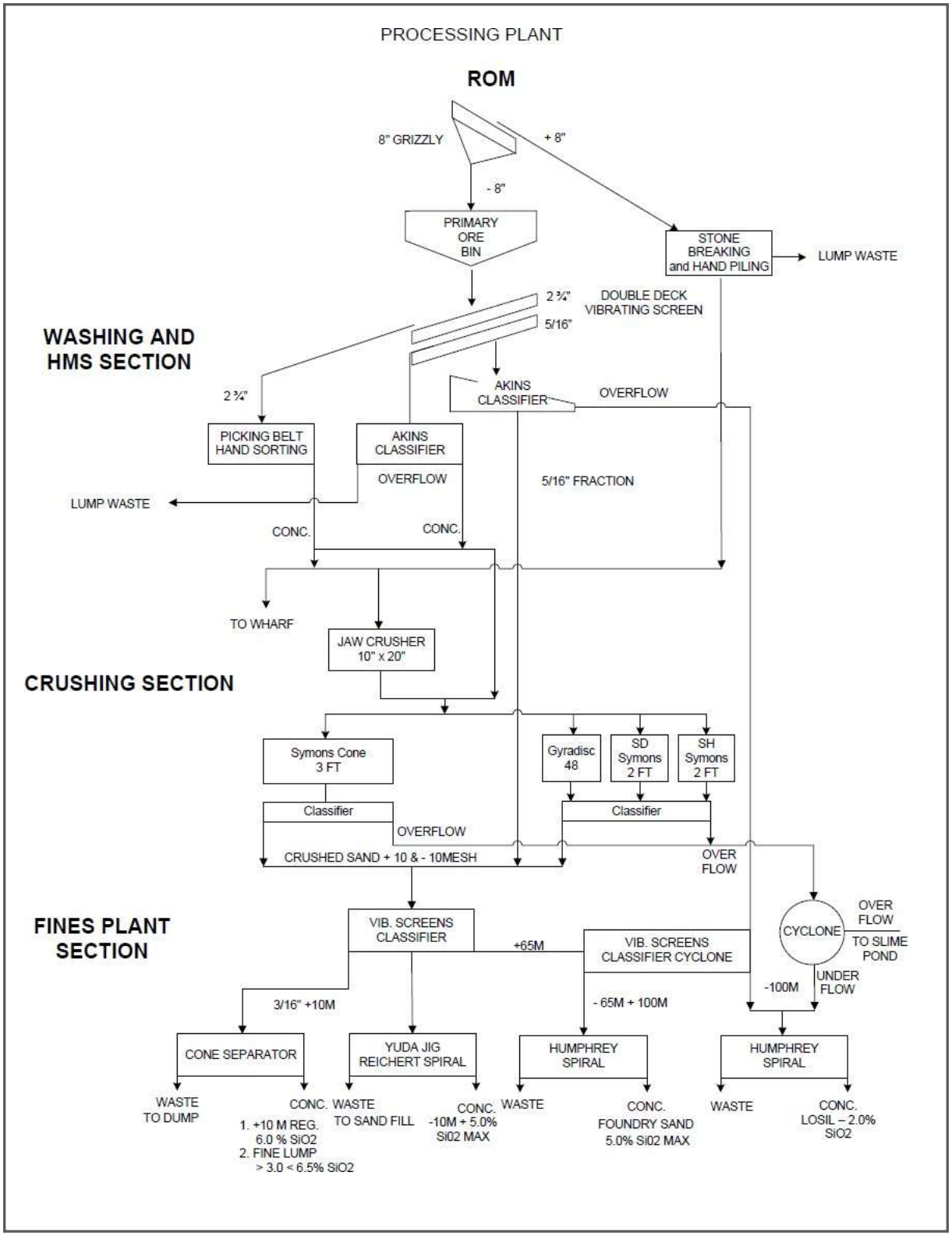
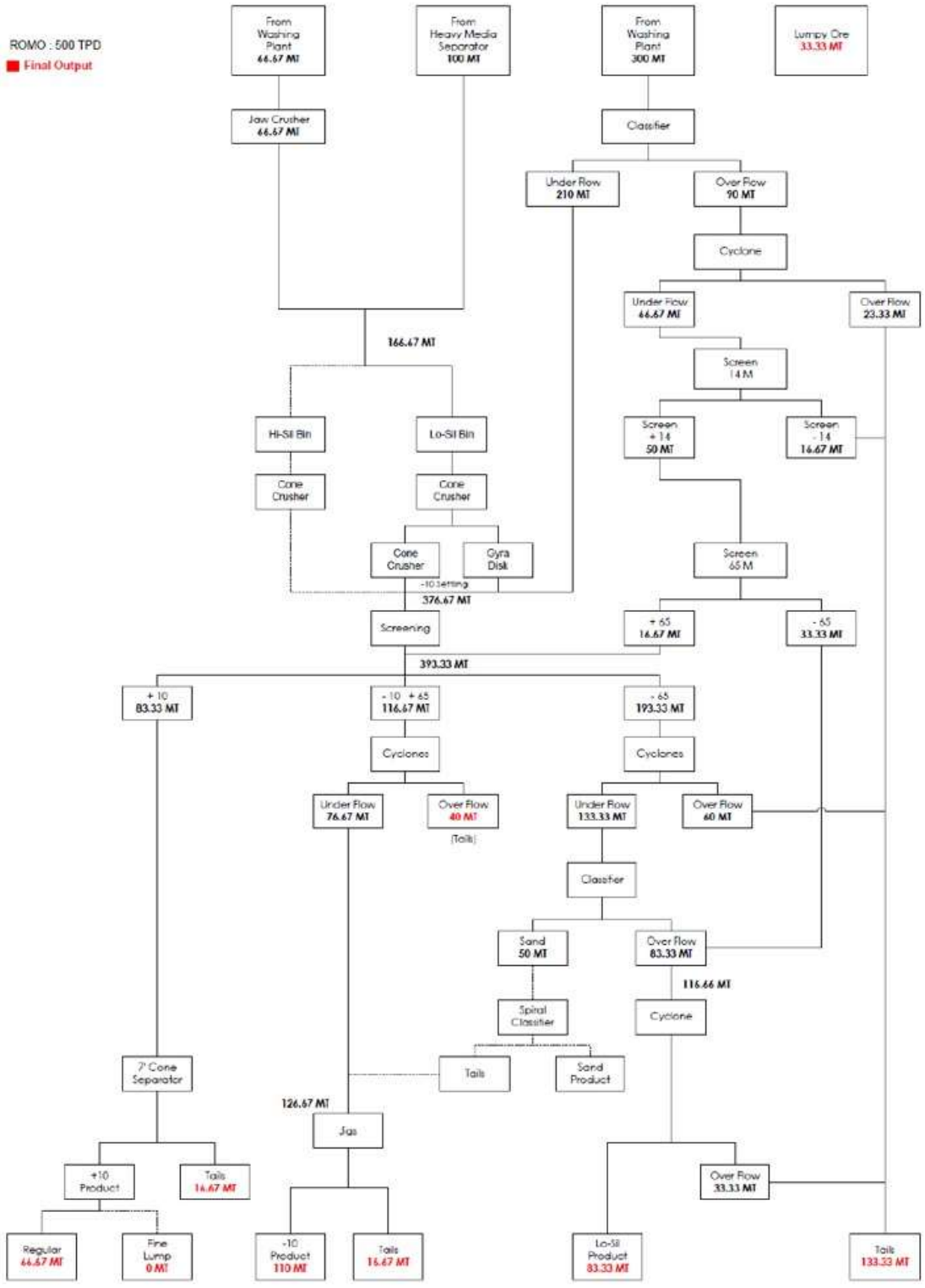


Figure PD-8. Milling Process Flow Chart

Run-Of-Mine-Ore (ROMO)



CONSOLIDATED MINES, INC.

FIGURE PD-9

ENVIRONMENTAL IMPACT STATEMENT
CONSOLIDATED MINES, INC.
COTO CHROMITE PROJECT
DAILY MATERIAL BALANCE

SCALE: NOT SCALED | SOURCE: CMI | PAGE NO. : **30**

1.5.4 Mine Waste Disposal System

Underground mine wastes will be stored at a designated area, at least 500 meters away from the portal and underground building structures. Build-up of mine waste is minimal, since waste to ore ratio is 1:5.

During mill operation, slime from the mill plant will be conveyed towards the tailings pond by gravity system. Wastewater with slime coming from the mill processing plant will be conveyed through a pipeline, into the tailings pond where solids in the wastewater are allowed to settle. Wastewater testing will be done and treatment will be conducted, if required. Clear effluents will then be discharged into the river. Coarse tailings will be crushed forfilling purposes and lump wastes are collected for road building, construction and backfilling. The sand and siltwill be hauled to the batching plant as mixture for the cement fill to be used in backfilling the mined-out areas.

The impact assessment for the geology module recommends reusing Tailings Pond 3 and Tailings Pond 4, after proper excavation and rehabilitation or an area near the existing airstrip. These are depicted in **Figure PD-10**.

1.6 Safety Features

CMI will implement the following safety programs/activities:

1.6.1 Designation of a Competent Safety Officer

The Safety Officer shall be capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees and has the authorization to take prompt corrective measures to eliminate them. He shall also be responsible for inspecting and evaluating workplace conditions such as monitoring presence of air contaminants, ground stability etc.

1.6.2 Conduct Safety Trainings

All personnel involved in underground construction must be trained to recognize and respond to hazards associated with this type of work. Qualified training personnel shall be employed and retired miners residing inthe area shall also be considered as trainers. Training should be tailored to the specific requirements of the work site.

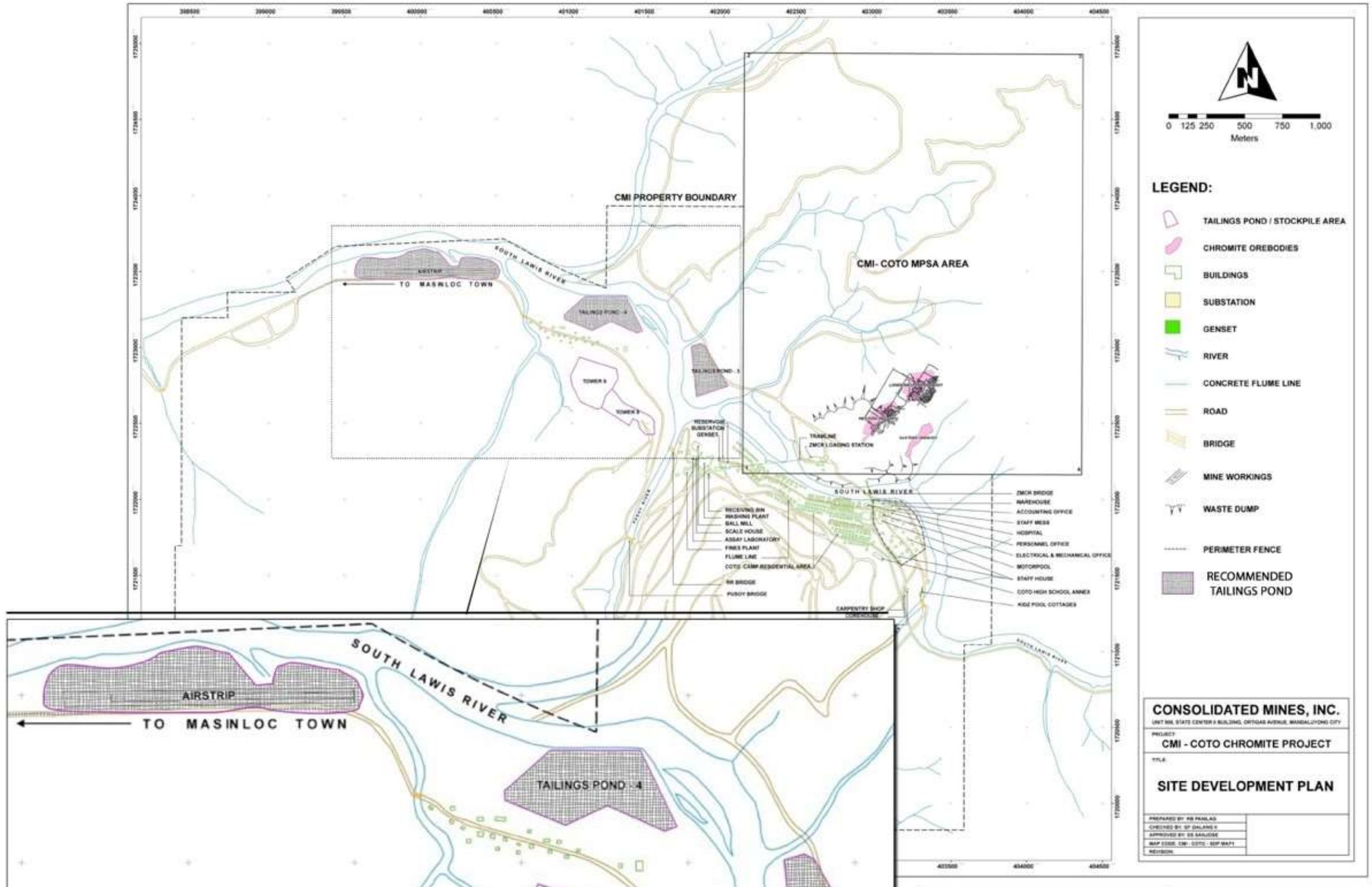
Training topics shall include the following:

- Air monitoring and ventilationLighting
- CommunicationsFlood
- control
- Personal protective equipment
- Emergency procedures, including evacuation plans
- Check-in/check-out procedures
- Explosives
- Fire prevention and protection
-

1.6.3 Site Control Procedures

1.6.3.1 Check-in and Check-out Procedures

Check-in and check-out procedures will be in place to ensure that above ground personnel maintain an accurate account of the number of persons underground and to prevent unauthorized persons from gaining access to the site.



CONSOLIDATED MINES, INC.

FIGURE PD-10

ENVIRONMENTAL IMPACT STATEMENT
CONSOLIDATED MINES, INC.
COTO CHROMITE PROJECT
LOCATION OF RECOMMENDED TAILINGS POND

SCALE:	SOURCE:	PAGE NO.:
AS SHOWN	BC-MCO, 1992	32

1.6.3.2 Control of Access and Egress

To guarantee safe access to and egress from all workstations, controls will be in place (e.g., monitoring of persons going in and out; checks that all people going in are authorized and wear proper PPE), to protect employees from potential hazards; unsafe pathways shall be properly barricaded, or fenced off, and posted with warning signs.

1.6.3.3 Ground Support of Underground Areas

The Safety Officer shall inspect all work areas, ground conditions and haulage ways at the beginning of each shift and as often as necessary to ensure ground stability. He shall also determine how often rock bolts need to be tested to ensure that they meet the necessary torque, taking into consideration ground conditions, distancefrom vibration sources, and the specific bolt system in use. Any dislodged/damaged ground supports shall bepromptly repaired or replaced.

1.6.3.4 Fire Prevention and Control

In addition to basic fire prevention and control, measures specific for underground operations shall also be implemented. Open flames and fires shall be prohibited in underground construction areas, except as permitted for welding, cutting, or other hot work operations. Smoking shall be prohibited in areas with fire and explosionhazards. Signage prohibiting smoking and open flames shall be placed throughout the work areas. Fire extinguishers shall be available at strategic areas.

1.6.3.5 Provision of Ventilation

Fresh air shall be supplied to all underground work areas in sufficient amounts to prevent any dangerous or harmful accumulation of dust, fumes, mist, vapor, or gases. Special fans, controls, and openings shall be used to direct fresh air to the working places and convey spent or contaminated air out of the mine. When performingwork that is likely to produce dust, fumes, mist, vapor, or gases (such as blasting or rock drilling), the ventilation systems shall exhaust smoke and fumes to the outside atmosphere before resuming work in all affected areas. When drilling rock or concrete, dust control measures such as spray systems shall be used to maintain safe dust levels.

1.6.3.6 Lighting Requirements

Properly lighted working places are very important for both safety and productivity. Each underground miner shall be equipped with a hard-hat-mounted lamp with the battery worn on the belt. Fixed lighting shall be installed along travel ways and at shaft stations, dumping points, and other important locations.

1.6.3.7 Special Air Monitoring Requirements

CMI will conduct air-monitoring activities to determine if air contaminants may present a danger to life at any time. In such cases, designated personnel (e.g., Safety Officer) shall immediately take all necessary precautions and post a notice at all entrances to the underground site about a hazardous condition. CMI shall also test foroxygen, CO, NO_2, methane and other flammable gases and toxic fumes, as often as necessary, to ensure thatlevels remain within permissible exposure limits.

1.6.4 Emergency Procedures

Whenever an employee is working underground, at least one designated person shall be on duty above ground, responsible for maintaining an accurate count of the number of employee's underground and summoning emergency aid, if needed. Every employee working underground shall have a portable hand/cap lamp for emergency use. CMI shall always ensure that rescue teams are available at the mine site or within 30 minutes

travel time to the site. Advance arrangements shall be made for local rescue services to meet this requirement. Rescue team members shall be trained in rescue procedures, the use and limitations of breathing apparatus, and the use of firefighting equipment. If a shaft is used as the means of egress, CMI will arrange for a readily available power-assisted hoisting capability for emergency cases.

Annex D presents the guidelines for an Emergency Rescue Plan that CMI will complete within its first three (3) years of operation.

1.6.5 Special Conditions for Drilling and Blasting Underground

Before initiating any drilling and blasting operation underground, the Safety Officer shall inspect all associatedequipment, as well as the blast area and correct any hazards.

Blasting will be done during break time of every shift at 11:00 NN, 7:00 PM, and at 3:00 AM. Two (2) production panels will be worked simultaneously on every shift, in order to meet the required 300 MTPD ROMO. In year 2 (or 3) mining operation will peak at a production rate of 500 MTPD, simultaneously mining three (3) panels. A 30 second to 1 minute interval for each blast will be observed during each sequence.

Special safety precautions for blasting activities include the following: Warn

- employees when blasting is about to begin.
- Whenever an underground blasting operation in a shaft is complete, the Safety Officer shall check the air quality and make sure that no walls, ladders, timbers, blocking, and wedges have been loosened as a result of the activity.
- If repairs are required, only employees involved in repair activity may be in or below affected areasuntil repairs are complete.
- All blasting wires must be kept clear of electrical lines, pipes, rails and other conductive material toprevent explosions or exposure of employees to electric current.

1.7 Project Size

The total ore to be mined is 1,302,677 MT. Extraction rate is 500 TPD or 150,000 MT a year.

At a mill recovery rate of 58%, annual production is estimated at 87,900 MT of chromite concentrate and 10,000 MT of lumpy ore. Yearly production estimates are provided in Table PD-3.

Table PD-3. Estimated Production

Year	Reserve	ROMO (MT)	Lumpy Ore (MT)	Concentrate (MT)
1	1,302,677.00	22,500.00	1500.00	13,185.00
2	1,280,177.00	150,000.00	10,000.00	87,900.00
3	1,130,177.00	150,000.00	10,000.00	87,900.00
4	980,177.00	150,000.00	10,000.00	87,900.00
5	830,177.00	150,000.00	10,000.00	87,900.00
6	680,177.00	150,000.00	10,000.00	87,900.00
7	530,177.00	150,000.00	10,000.00	87,900.00
8	380,177.00	150,000.00	10,000.00	87,900.00
9	230,177.00	150,000.00	10,000.00	87,900.00
10	80,177.00	80,177.00	5345.10	46,983.72
Total		1,302,677.00	86,845.10	763,368.72

Source: CMI Data 2021

The estimated mine life of the project based on available reserve is about 10 years, based on the annual target production of 87,900 MT ore concentrate and 10,000 MT of lumpy ore. As the operation progresses, further exploration activities will be conducted to extend the mine life of the project.

1.8 Mining Development Plan, Description of Project Phases and CorrespondingTimeframes

1.8.1 Rehabilitation/Revalidation of Resource

Repair and restoration of working places and other infrastructure, both at the surface and underground, will beprimary activities prior to production.

During the first year of operations, rehabilitation activities shall involve the following:

- Dewatering of flooded areas in the underground - It is estimated that about 90,000 cu.m. of water needs be pumped out from the mine workings using several dewatering pumps. The expelled water is to be disposed properly and systematically. The water coming from the mine is not expected to contain significant amounts of metals associated with the chomite deposits. Water pipes and canalswill be used to drain water so as to minimize soil erosion due to water flow.
- Establishing reliable and continuous power supply.
- Repair of vital underground infrastructure, specifically pumps, water and air pipelines – Dewateringcould cause mined-out unsupported stopes to collapse. It is expected that most of the mine openings are sealed due to roof and wall collapse and would therefore require the appropriate and necessary underground rehabilitation, after a comprehensive assessment of the status of the structures has been done.
- Reinforcement of any weak structures in the active underground areas may require rock bolting, shot creting and/or timbering. The need for timber is expected to be minimal because timbering willonly be employed in weak areas. Timber shall be sourced from local licensed timber companies. The amount of timber needed shall be determined once the assessment of the tunnels is completed.
- Installation of water pumps and efficient ventilation systems will be done before any rehabilitation ofunderground infrastructure is made.
- Implementation of mine safety measures to avoid work-related accidents that could lead to injury and death. Mine safety protocols will be provided by CMI through trainings and proper supervision.
- Repair of damaged or worn-out milling equipment and building infrastructure. Repair of other
- vital surface structures.

1.8.2 Production Phase

Mining activity shall focus on the lower western ore body for the first five (5) years. However, a two-year resource validation program covering the entire 618.11 hectares of the MPSA will be conducted. This program has the following activities:

- Validation of available data. Data from previous drill holes shall be reevaluated and digitized. This will be used to verify the current reserve estimate of the previous operator.
- Rehabilitation of the core house. Geo-referencing and
- logging of available cores.
- Confirmatory drilling to assess the present ore reserves estimate and to delineate deeper chromiteore bodies as well.
- Proper logging of cores to obtain necessary information about the lithology, extent and volume of the chromite deposit.

- Start of initial production in the restored underground areas.
- Development of new working places such as new sublevel access and new stop areas.

- Start of full production when ore bodies have been validated and when all repair works are done.

From the third year to the tenth year,

- Continue full production, starting in the lower western ore body.Develop new
- working places.

1.8.3 Abandonment Phase

CMI's abandonment plan will achieve the following objectives:

1. To reduce or eliminate adverse environmental effects once the mine ceases operations.
2. To establish physical and biological conditions which meet regulatory requirements.
3. To ensure that the closed mine does not pose an unacceptable risk to public health and safety.
4. To comply with the Final Mine Rehabilitation and Decommissioning Program required by Mines and Geosciences Bureau

The planning process will be in accordance with the following general guidelines:

1. Consultation with stakeholders;
2. Identification and evaluation of closure issues;
3. Undertake risk assessment of potential risks/issues;
4. Presentation of findings of validation programs, and discussions of interpretations with stakeholders;
5. Refining of closure strategies including post closure criteria, monitoring & management requirements;
6. Agreement of closure concepts between stakeholders and proponent;
7. Seek formal endorsement of mine closure plan (thru DENR-MGB);
8. Present/discuss monitoring results and outcomes with stakeholders;
9. Modification and implementation of mine closure plan; integrate into operations;
10. Preparation of final rehabilitation report (Final Mine Rehabilitation/ Decommissioning Program);
11. Preparation of a Memorandum of Agreement (MOA) or similar document stating the satisfaction ofcompleted mine closure criteria and/or acceptance of transfer of infrastructure/maintenance commitments;
12. Submit plan for pre-evaluation by the MRF Committee and for final approval by the CLRF SteeringCommittee; and
13. Turn over public land back to the national government following prescribed procedures.

The land use(s) of the mined-out area will depend on what will be determined as the appropriate land use after the mining operations. Planning for such land use will involve the local stakeholders. The main objective of CMI for the rehabilitation of the mined-out area will be restoration that will replicate the pre-mining conditions as close as possible, leaving all environmental values intact, primarily to the restoration of the native ecosystem (pine forest). Progressive rehabilitation will be the main strategy for the restoration of mined-out areas, wherein rehabilitation is similar to the rate of mining.

1.9 Manpower Requirements

CMI will employ a total of 309 individuals, for both permanent and contractual positions. Qualified residents within and near the vicinity of the project will be given preference in hiring. **Table PD-4** is a list of the personnel that may be required for the various phases of the project, while **Table PD-5** lists possible jobs for women.

Table PD-4. Manpower Requirements

Details	No. of Employees (Rehabilitation Phase)	No. of Employees (Production Phase)	No. of Employees (Abandonment Phase)	Qualification
Office of the Resident Manager	3	3	2	
Resident Manager	1	1	1	Mining Engineer
Technical Assistant	1	1		Mining Engineer/Geologist or Metallurgical Engineer.

	Executive Assistant	1	1	1	College Graduate
A. Administration and Finance		44	64	26	
	Admin Manager	1	1	1	Business Management Graduate or Post Graduate
	Admin Clerk		1		College Graduate
	Chief Accountant	1	1		BS Accounting Graduate
	Accountant	1	5	2	BS Accounting Graduate
	Doctor				on call
	Dentist				on call
	Nurse	1	1	1	Nursing Graduate
	Legal		1	1	Lawyer
	Liaison Officer		1		College Graduate
	Logistics Supervisor		1		Any Engineering Course
	Warehouse man	1	12		At least high school graduate
	Purchaser		2		Engineering Under graduate
	Time Keeper	1	3	1	Any Engineering Course
	Security Head	1	1	1	College Graduate / Criminology
	Security Guards	30	30	15	At least high school graduate
	Maintenance Supervisor	1	1	1	At least college Undergraduate
	Maintenance Crew	3	3	1	At least high school graduate
	Staff House Crew	3	5	2	At least high school graduate
B. Mine Engineering and Production					
1. Mine		10	130	3	
	Mine Manager	1	1	1	Mining Engineer
	Production/Grade Control Engineer		4		Mining Engineer
	Shift Mine Superintendent		3		Mining Engineer
	Ventilation Engineers	1	3	1	Mining/Civil Engineer
	Surveyor		1		Geodetic Engineer
	CAD Operators		2		
	Asst. Surveyor		2	1	Geodetic Engineer undergraduate
	Shift Mine Foreman		3		Licensed Foreman*
	Jackleg Operators		6		At least high school graduate
	Asst. Jackleg Operator		6		At least high school graduate
	Hoist Operator		3		At least high school graduate
	Jumbo Drill Operator		6		
	LHD Operator		12		At least high school graduate
	LPT Operators		21		At least high school graduate
	Blaster Foreman		3		Licensed Blaster
	Blaster		6		At least high school graduate
	Timberman	2	6		At least high school graduate
	Asst. Timberman	2	9		At least high school graduate
	Lube man	1	6		At least high school graduate

Details	No. of Employees (Rehabilitation Phase)	No. of Employees (Production Phase)	No. of Employees (Abandonment Phase)	Qualification
Tire man	1	3		At least high school graduate
2. Mill		35		
Mill Manager		1		Metallurgical Engineer
Shift Mill Superintendent		4		Metallurgical Engineer
Shift Mill Foreman		3		Metallurgical Engineer
ROMO Feeder tender		3		At least high school graduate
Jaw Crusher Tender		3		At least high school graduate
Pickers		30		
Helper		6		At least high school graduate
3. Assay Laboratory	3	16		
Chief Chemist		1		Chemist
Chemist	1	3		Chemist
Lab Assistant	1	9		College Graduate
Helper	1	3		At least high school graduate
C. Mechanical and Electrical Department	12	34		
MED Manager	1	1		Mechanical or Electrical Engineer
Chief Mechanical Engineer	1	3		Mechanical Engineer
Chief Electrical Engineer	1	3		Electrical Engineer
Mechanic	2	6		At least college undergraduate
Asst. Mechanic	2	6		At least high school graduate
Electrician	2	6		At least college undergraduate
Welders	1	3		At least high school graduate
Helper	2	6		At least high school graduate
D. Geology and Exploration	11	17	1	
GE Manager	1	1		Geologist
Geologist	2	2		Geologist
Mapper	2	2	1	At least high school graduate
Driller	2	3		At least high school graduate
Asst. Driller	2	3		At least high school graduate
Helper	2	6		At least high school graduate
E. Safety Department	3	7	2	
Safety Manager	1	1	1	Mining Engineer
Safety Inspector	2	6	1	College Graduate
F. Environment Management Department	2	4	13	
MEPEO	1	1	1	Mining/Met or Geologist / MSin Environmental Management

	Asst. MEPEO	1	1	1	At least college undergraduate
	EMD Staff		2	1	At least high school graduate
	Nursery Keepers/Gardeners			10	
F. Community Relations Dept		2	3	1	
	CRO	1	1	1	College Graduate
	CRD Staff	1	2		At least high school graduate
	Total	**90**	**309**	48	

Table PD-5. Possible Job Openings for Women

(Production Phase)

Department	No.	Possible Job openings for Women
A. Office of the Resident Manager	3	1
B. Finance and Administration	69	15
C. Mine Engineering and Production	106	
D. Mill	50	10
E. Assay Laboratory	16	12
F. Mechanical and Electrical Department	34	
G. Geology and Exploration	17	3
H. Safety Department	7	
I. Environment Management Department	4	2
J. Community Relations Dept	3	2
Total	**309**	

Preferred scheme for sourcing, locally from the host and neighboring LGUs and from outside, includes localpaper announcements, posting on barangay halls and local radio announcement.

2. KEY ENVIRONMENTAL IMPACTS AND MANAGEMENT/ MONITORING PLAN

2.1 Impact Management Plan

Shown below is the environmental management program to be implemented by the company to mitigate the projected impacts of the project.

Environmental Component	Projected Impact	Mitigating Measures		Effective		Plan of Action
		Planned	Actual	Yes	No	
LAND	Landslides and deteriorating bridges due to access road rehabilitation	Provision of mitigating measures to limit landslides on the road network	▪ Installation of traffic measures to minimize accidents and loss of lives and property ▪ Implementation of angle of repose and best engineering structures when cutting through slopes ▪ Include factors of safety in all engineering/geotechnical designs ▪ Conduct thorough geological mapping ▪ Implement appropriate ground failure plan ▪ Train mine personnel to recognize various ground failure modes, hazards warning signs and procedures during events of ground failure ▪ Train personnel to recognize signs of potential instability problems e.g., tension cracks, abnormal water flow/seepages, presence of overhang	■		For implementation
LAND	Soil erosion due to loss of topsoil,	Selective removal of	▪ Establish sedimentation control facilities and	■		For implementation

	removal of overburden and removalof vegetation	top soil and re-vegetation	siltation ponds ▪ Re-vegetation of exposed areas ▪ Conduct of rehabilitation activities during the dry season ▪ Cementing of work areas (e.g., in the motor pool area)			
LAND	Mass movement, flooding, soil erosion and run-offs associated with tailings storage facilities and other activities requiring excavation and land clearing	Close monitoring of tailings storage facilities Enhancement of areas that may cause mass movement	▪ Identification of the location of a new tailings pond taking into consideration the stability and eventual siltation of the main Lewis River ▪ Proper management of the tailing's discharges and treatment of effluents	■		For implementation
LAND	Possible land subsidence due to instability of mine area	Enhancement of mine area's stability	▪ Establishment of proper support and backfill of mined out areas ▪ Conduct geotechnical studies to determine appropriate infrastructure and support systems	■		For implementation
LAND	Localized displacement of more sensitive faunal species that are usually forest-restricted	To protect wildlife	▪ Incorporate buffer zones and spare existing wooded forested stands not needed for facilities ▪ Establishment of seed banks and tree nurseries for replanting/ re-vegetate with native trees shall be considered to attract diverse assemblage of wildlife ▪ Use of fruiting trees for reforestation to increase local diversity of birds and other wildlife ▪ Establishment of a "Faunal Rescue Plan" that will	■		For implementation

			consider documentation, rehabilitation and release of any trapped/injured wildlife ▪ Proactive monitoring of changes in biodiversity			
WATER	Water Supply Exhaustion and Depletion	To use alternative water supply and recycling	▪ Use of river water will be prioritized over groundwater ▪ Proper impounding of used wash water shall be implemented ▪ Conduct studies on recycling of wash water back into the loop, to be used as washing media of chromite ore	■		For implementation
	Mass movement, flooding, soil erosion and run-offs associated with tailings storage facilities and other activities requiring excavation andland clearing	Provision of new a more stable tailings pond	▪ Identification of the location of a new tailings pond taking into consideration the stability and eventual siltation of the main Lawis River ▪ Proper management of the tailing's discharges and treatment of effluents	■		For implementation
WATER	Siltation and sedimentation of drainage systems due to possible run-offof stockpile materials	Prevention of possible run-off of stockpile materials	▪ Prevent accumulation of stockpiles near steep slopes or near natural tributaries ▪ Construction of temporary barriers around stockpiles to prevent release of loose materials ▪ Construction of silt traps or small dams across waterways or gullies ▪ Provision of tarpaulin covers for loose materials during heavy rainfall, to prevent erosion	■		For implementation
WATER	Flooding of waterways due to increased rainfall due to climatechange	Provision of waterways to mitigate	▪ Construction of deeper drainage waterways and siltation ponds ▪ Improvement of	■		For implementation

		flooding	reservoir to accommodate increased volume of surface water			
AIR	Air quality effects due to SOx and NOx emissions from heavy equipment during rehabilitation.	Regular monitoring of heavy equipment emission	Regular maintenance of heavy equipment and motor vehicles to minimize exhaust gas emissions	■		For implementation
AIR	Air quality effects due to fugitive dust from rehabilitation of milling plant	Provide air dust collector	▪ Regular or frequent spraying during land development activity (esp. during summer) ▪ Replacement of vegetation in non-structure areas ▪ Compacting of exposed soil surfaces ▪ Use of tarpaulin cover on trucks loaded with construction materials ▪ Implementation of motor vehicle maintenance program, including emissions testing ▪ Hauling of spoils/excavated earth materials immediately after excavation ▪ Impose speed restrictions (15-20 kph)	■		For implementation
AIR	Air quality effects due to fugitive particulates and gaseous emissions during extraction of chromite ore	To impose regular monitoring on the movement of heavy equipment and condition	▪ Replace vegetation in mined-out areas to minimize wind erosion of topsoil ▪ Compacting of exposed soil surfaces ▪ Require contractors to provide tarpaulin cover on trucks loaded with chromite ore ▪ Impose speed restrictions (15-20 kph) ▪ Regular maintenance of heavy equipment and motor vehicles ▪ Proper scheduling and conduct of blasting operations	■		For implementation
	Air quality effects due to fugitive particulates and gaseous emissions from the milling process	Provision of air dust collection device	▪ Provision of appropriate dust control devices ▪ Proper and regular maintenance of crushing equipment ▪ Provision of adequate enclosure for dust-generating equipment	■		For implementation

	Air quality effects due to fugitive particulates from transport of finished product from the mite site to the port	Regular monitoring	▪ Require contractors to provide tarpaulin cover on trucks loaded with finished products ▪ Formulate and implement a motor vehicle maintenance program, including emissions testing ▪ Impose speed restrictions (15-20 kph) ▪ Paving or compacting of road sections where houses are concentrated	■		For implementation
	Air quality effects due to SOx and NOx emissions from standby generators	Maintenance of standby generators	Regular maintenance of standby generators	■		For implementation
	Increase in sound levels from mill plant rehabilitation	To use ear mufflers to workers, shields and proper scheduling of work	▪ Maintenance of motor vehicle mufflers ▪ Provision of barriers and shielding stationary vibrating equipment ▪ Provision of ear mufflers to workers ▪ Schedule noisy activities during the day	■		For implementation
PEOPLE (Health and Safety)	Increase of ambient sound levels	To follow DENR Standard Noise Level	▪ Incorporate noise criteria in the specifications and selection of equipment ▪ Regular maintenance of mufflers of standby generators and other equipment ▪ Provision of ear plugs to workers directly exposed to high noise equipment and areas at the	■		For implementation
PEOPLE (Health and Safety)	Hazardous Waste Generation	Provision of Proper storage facility	Hazardous wastes will be properly identified, labelled and stored. This will be due for collection to accredited hauler and treater.	■		For implementation
PEOPLE (Health and Safety)	Work-Related Hazards		▪ Conduct of safety training programs for all new workers ▪ Provision and use of workers of adequate protection devices ▪ Compel Contractors to maintain their	■		For implementation

			heavy equipment & vehicles in good condition ▪ Implement an ecological solid waste management plan & coordinate with municipality for disposition of residual waste ▪ Provision of proper sanitation and water supply facilities ▪ Use retired miners on site as trainers for new employees			
PEOPLE	Injury / fatality due to inadvertent access to the mine		▪ Development of an Underground Safety Manual detailing all safety aspects ▪ Training personnel for the type of work they are required to perform ▪ Provision of access restrictions ▪ Provision of signs in dangerous areas (such as caving areas and tailings dams) ▪ Conduct of public consultations to make the public made aware of the dangers	■		For implementation
PEOPLE	Enhance industrial development of the area & increase in local revenues of the LGUs from their share of taxes & other permits & licenses		Prompt payment of taxes & other permits/licenses	■		For implementation
PEOPLE	Possible growth of population because of employment opportunities		▪ Coordination & assistance with the municipality & barangay officials to monitor, identify & prevent entry of new informal settlers in the populated areas in compliance with the Urban Development	■		For implementation

			& Housing Act ▪ Prioritization of qualified local residents in employment			
PEOPLE	Increased traffic movement		▪ Proper positioning of equipment and lay down areas ▪ Putting up of appropriate traffic signs ▪ Formulation of traffic management plan	■		For implementation

3. Development Plan, Description of Project Phases and Corresponding Timeframes

3.1.1 Pre-Construction/Pre-Operational

This stage will include the preparation of Environmental Impact Statement (EIS) as a requirement for ECC application for the proposed project in the previously issued conditions.

3.1.2 Construction/Development

There will be a civil works involved in the proposed project using heavy equipment's especially earth moving activities. The rehabilitation is estimated to finish around 8 to 12 months.

3.1.3 Operational

This phase involves the processing of desired product. Detailed process is shown in the flowchart. As previously mentioned, there will be no change in the process itself but mostly in the automation and instrumentation upgrade to further achieve a larger production.

4. PROJECTED TIMEFRAME AND PROJECT COST

Construction and rehabilitation will only start after the issuance of the Environmental Compliance Certificate (ECC) from the Office of the Environmental Management Bureau Central Office. The project is expected to be completed by the 1st quarter of 2023 and construction/rehabilitation works will take about one year.

Since all facilities are in place, commercial production is expected in 2023. The summary of the proposed timetable of activities is shown below:

Phase	Year															
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Rehabilitation																
Operation																
Progressive Rehabilitation																
Decommissioning																

The CMI Coto Chromite Project is estimated to require an investment cost of 350 million pesos (Php 350,000,000) which will cover repair and restoration, equipment purchase and operating cost.

5. Social Development Plan

5.1 The Proponent will be undertaking the Social Development Plan (SDP) in consonance with its Corporate Social Responsibility (CSR) mission, which includes but not limited to the following:

- Skills training in order to prepare the host community for employment opportunities during the construction and operation phases of the project
- Identify and sustainable livelihood training programs
- Environmental/Climate Mitigation Actions: Reforestation and Carbon Sink Program in coordination with the local DENR Offices (Regional, Provincial and Community)

The SDP Framework provided below shows programs needed by the community based on the perception survey conducted.

CONCERN	Responsible Community Member / Beneficiary	Government Agency/ Non-government Agency and Services	PROPONENT	Indicative Timeline	Source of fund
Livelihood / Employment (Men, Women, Youth & elderly) • Skills training to prepare the community for employment opportunities during the construction phase of the project • Sustainable livelihood training programs	Qualified Project Affected Men, Women, Youth & Elderly	• Barangay Council • Municipal Council • TESDA	Community Relations Officer	• Construction • Operation	Proponent
Education and Recreation	Barangay Committee for Education ➢ Project-affected Families	• DepEd	Community Relations Officer	• Construction • Operation	Proponent
Environment and Sanitation • Reforestation and Carbon-Sink Program • Tree nursery • Climate Change and Disaster preparedness • Assistance in addressing the	Barangay Committee for Environment ➢ Project-affected Families	• CENRO • Municipal Health Officer	Chief, Security Officer	• Construction • Operation	Proponent

environmental related problems of neighboring residents					
Peace and order	Barangay Committee for Environment • Project-affected Families	• LGU • PNP	Chief, Security Officer	• Construction • Operation	Proponent
Climate Change Adaptation and Disaster Risk Reduction and Management	Barangay and municipal Disaster Risk Reduction and Management Council	• LGU • NDRRMC	Chief, Security Officer	• Construction • Operation	Proponent

5.2 The Information, Education and Communications (IEC) Implementation Plan

The IEC started as early as 2019 when the Proponent started a series of dialogues with the LGU and land owners and affected community during the SDMP preparation. This IEC will be a continuing process through the life of the project in order that the stakeholders will be properly informed on the different phases and activities in relation to the project.

Distribution of Invitation at Barangay Taltal Hall

IEC essentially involves several media and forms such as perception surveys, public consultations, interview if key informants or Focus Group Discussions (FGDs) or print media.

The generic IEC Plan/Framework

Target Sector Identified as Needing Project IEC	Major Topic/s of concern in Relation to Project	IEC Scheme / Strategy Methods	Information Medium	Indicative Timelines and Frequency	Indicative Cost
1. Residents of Host Barangays	Awareness for the people on the actual impacts & mitigating measures of the Project and concerns related to Climate Change Adaptation and Disaster Risk Reduction	Sectoral Multi-media	• Stakeholders' Consultative Planning Session / Community Projects Planning Sessions • Informal discussion/ / meeting with stakeholders	Annually Monthly	50,000.00

	(CCA-DRR) including possible effects to the agriculture sector if any, capacity building for Barangay and Municipal Disaster Risk Reduction and Management Council		• Climate Change Adaptation and Disaster Risk Reduction and Management Seminar and workshop		
2. Elementary School pupils of impact barangays	Basic environmental awareness	Group method Multi-media	Educational Tour with the elementary schools of the impact barangays	Once a year	50,000.00
3. Stakeholder's meetings		Group/ sectoral method	Stakeholder's meeting	Once a year	30,000.00
4. CMI employees	Awareness and safety	Group methods	Annual Safety program • Safety Inspectors Training • First Aid Training • Hazard Identification and Risk Assessment Training • Climate Change Adaptation and Disaster Risk Reduction and Management Seminar	Once a year	100,000.00