

# PROJECT SUMMARY

Depoo Quarry Corentyne

**GGMC Quarry License Number: D-1002/000/21**

Submitted for Depoo Consulting Inc.,

Address:

Lot 351 Sachi Bazaar Street,

Prashad Nagar,

Georgetown

Telephone:

516 287 0545

Email: [tdepoo@gmail.com](mailto:tdepoo@gmail.com)

Dated June 20, 2023

## **PROJECT SUMMARY:**

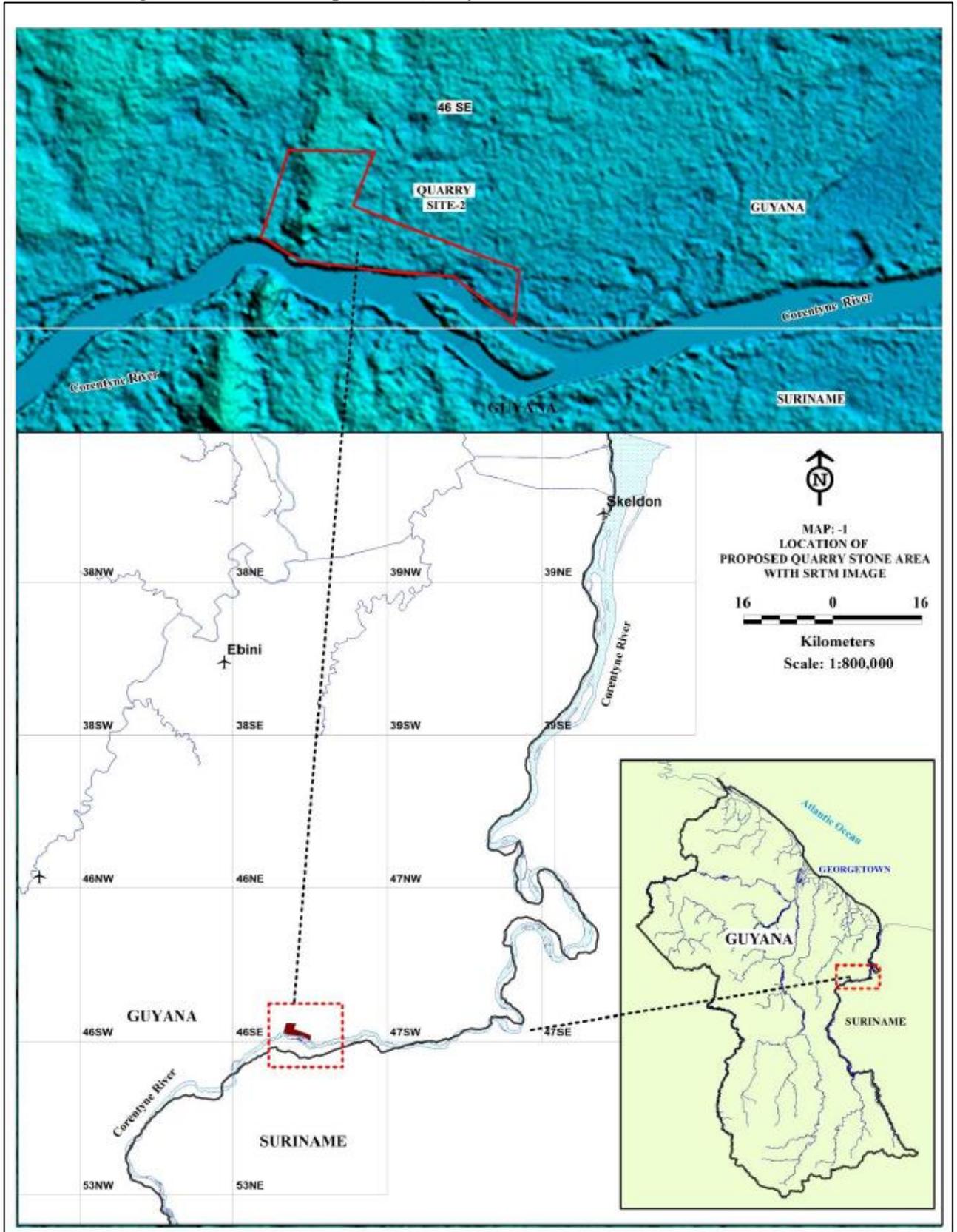
### **1 Project Location**

The quarry area (License D-1002/000/2) is located on the left banks of the Corentyne River in the East Berbice Mining District. The site is approximately 35 km from Orealla and 105 km from Skeldon settlements (on the border area between Guyana and Suriname). It occupies Terra Survey topographical sheets 46 SE of 1:50,000 scale on the PSAD (Provisional South American Datum 56) and a total area of 1500 acres (Figs. 1 and 2).

The regional geology of the proposed quarry area is determined based on the regional geology of Guyana (1:1,000,000 scale). A preliminary investigation of the area indicated the area has gabbro, granite, and granodiorite intrusive igneous rock masses or outcrops. Depoo Consulting plans to implement a detailed exploration program, including localized geological and structural mapping, sampling of rock outcrops, clearing the outcrop area, and drilling to evaluate the extent and quality of resources within the License Area (D-1002/000/21).

In the vicinity of the D-1002/000/21 area, there are neither indigenous communities nor any other types of developments, no settlements, and no agricultural or tourism activities. For miles around the proposed site, there are no habitations or developments of any kind.

Figure 1. Location Map of the Quarry Site Area (D-1002/000/21).



## 2. Cartographic Descriptions.

The site is uninhabited and currently sparsely forested. The topography of the Corentyne River quarry area comprises a series of low, elevated small ridges, ranging from 10 to 115 meters above Mean Sea Level (MSL). The vegetation in the quarry area consists of a mix of tropical species. The surrounding areas comprise primary vegetation.

The below notice with cartographic description from the Guyana Geology and Mines Commission and Figures 2 and 3 indicate the topography of the quarry license area with cartographic coordinates. Approved license area, which is geographically bounded to the left bank of the Corentyne River in the vicinity of the immediate north of the Cow Falls area. The closest water body to transport aggregates and crushed stones is the Corentyne River.

### Description of the property

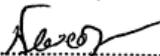
<p><b>GUYANA GEOLOGY AND MINES COMMISSION</b> Upper Brickdam</p> <p><b>LM40: D-1002/000/2021</b></p> <p><b>April 04, 2022</b></p> <p><b>NOTICE OF INTENTION TO GRANT QUARRY LICENCE</b></p> <p>Notice is hereby given in accordance with Section 89 of the Mining Act 1989 of the Intention to Grant to Depoo Consulting Inc. whose registered address is Lot 351 Sachi Bazaar Street, Prashad Nagar, Georgetown, Guyana a Quarry Licence to quarry for Aggregate and Dimension Stones over the under-mentioned area:</p> <p>Tract of state land located in the Coastal Area - No Mining as shown on Terra Surveys Topographic Map 46SE, at scale 1:50,000 with reference point 'X' located at the confluence of the Wikki River and the Hareraru creek with geographical coordinates of longitude 57°51'28.858"W and latitude 5°11'41.512"N</p> <p>Thence at a true bearing of 128.83°, for a distance of 17 miles 307.215 yards, to the point of commencement:</p> <p>Point A, located at geographical coordinates of longitude 57°39'49.007"W and latitude 5°1'50.387", thence at true bearing of 91.27°, for a distance of approximately 1756.9 yards, to Point B, located at geographical coordinates of longitude 57°38'56.807"W and latitude 5°1'49.235", thence at true bearing of 201.05°, for a distance of approximately 1214.36 yards, to Point C, located at geographical coordinates of longitude 57°39'9.767"W and latitude 5°1'15.683", thence at true bearing of 111.3°, for a distance of approximately 2 miles 185.599 yards, to Point D, located at geographical coordinates of longitude 57°37'27.167"W and latitude 5°0'35.831", thence at true bearing of 183.88°, for a distance of approximately 1166.18 yards, to Point E, located at geographical coordinates of longitude 57°37'29.51"W and latitude 5°0'1.386", thence at true bearing of 310.44°, for a distance of approximately 1314.47 yards, to Point F, located at geographical coordinates of longitude 57°37'59.239"W and latitude 5°0'26.629", thence at true bearing of 301.92°, for a distance of approximately 355.532 yards, to Point G, located at geographical coordinates of longitude 57°38'8.207"W and latitude 5°0'32.195", thence at true bearing of 281.68°, for a distance of approximately 376.05 yards, to Point H, located at geographical coordinates of longitude 57°38'19.151"W and latitude 5°0'34.448", thence at true bearing of 273.38°, for a distance of approximately 1 mile 990.407 yards, to Point I, located at geographical coordinates of longitude 57°39'40.745"W and latitude 5°0'39.251", thence at true bearing of 302.72°, for a distance of approximately 1027.37 yards, to Point J, located at geographical coordinates of longitude 57°40'6.431"W and latitude 5°0'55.692", thence at true bearing of 17.61°, for a distance of approximately 1 mile 178.325 yards, to the point of commencement at Point A.</p> <p>Thus enclosing an area of approximately 1500 acres, save and except all lands lawfully held or occupied.</p>	<p><b>LM40: D-1002/000/2021</b></p> <p>Any person who claims he has any right or interest to the area to be granted and will be injuriously affected by the grant of a Quarry Licence, may within twenty-one (21) days after publication of the first advertisement lodge with the Guyana Geology and Mines Commission a petition objecting to the grant of this Quarry Licence.</p> <p> Newell Dennison Commissioner</p>
---	--

Figure 2. Map of the Quarry Application (D-1002/000/21).

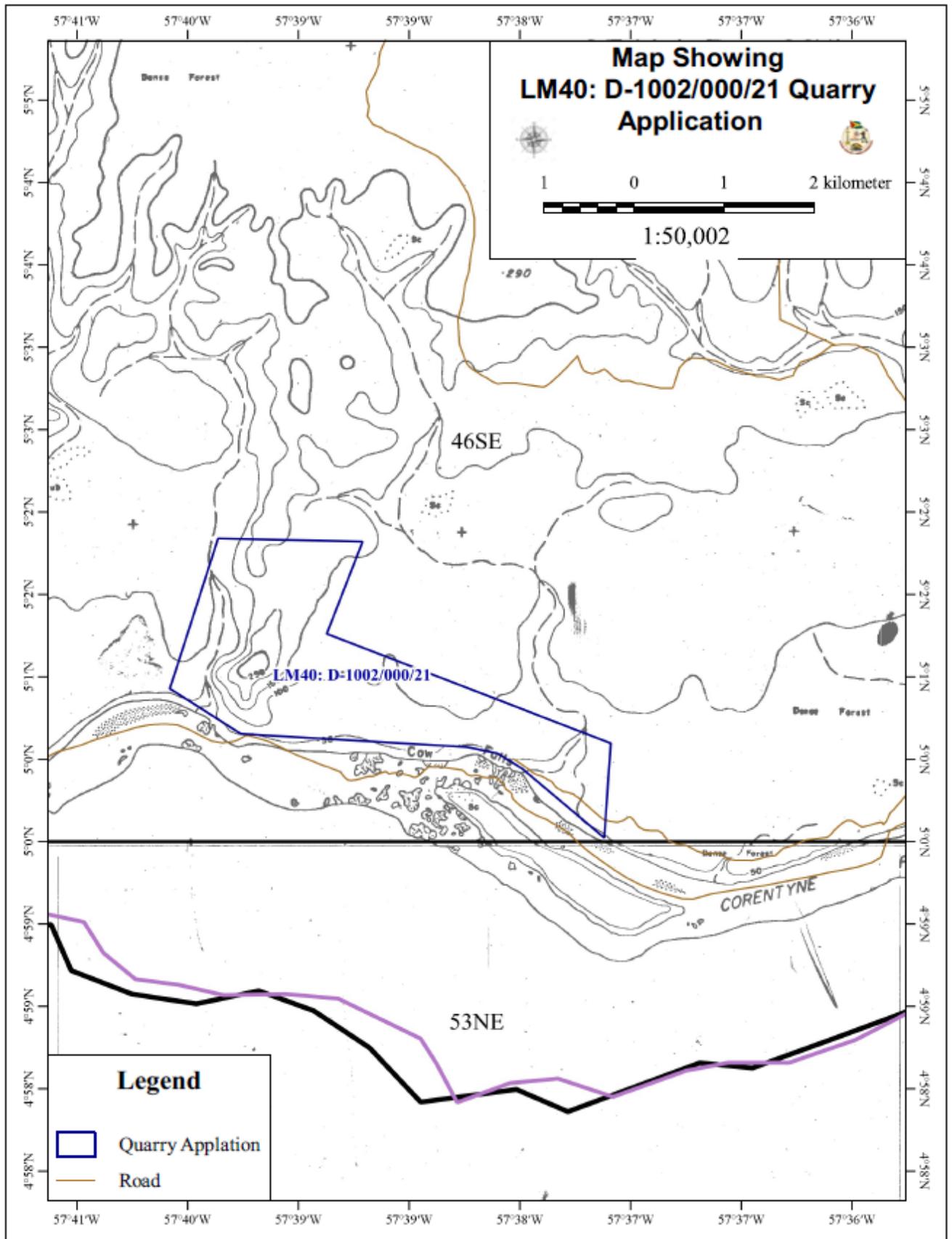
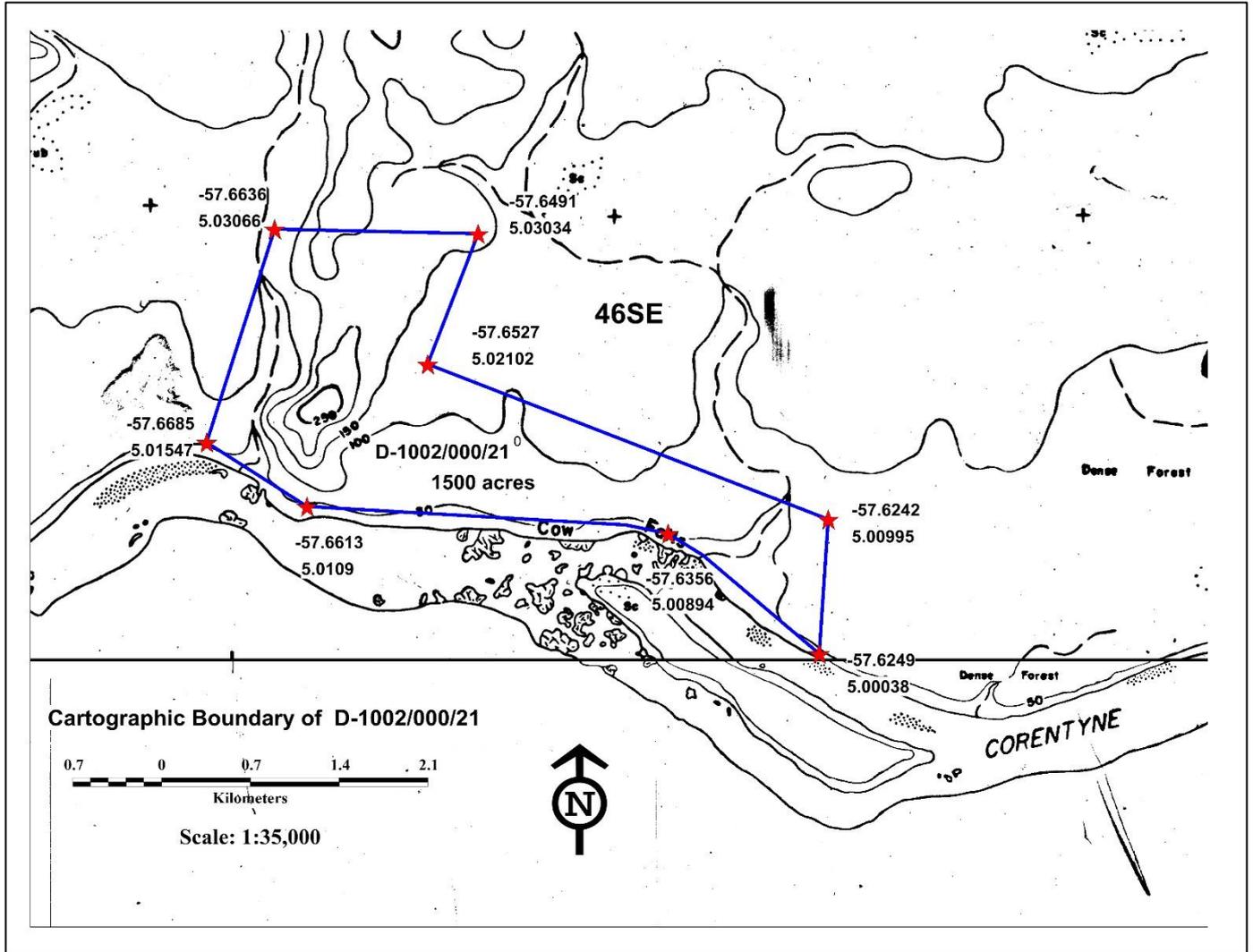


Figure 3. Cartographic Coordinates Map of the Quarry Area D-1002/000/21.



### **3. Baseline Information.**

#### **3a. Top / Surface Soil:**

Based on the National Agricultural Research and Extension Institute (NAREI), the quarry area consists of Sandy red-yellow latosols and Steep red-yellow latosols with 1 to 2m of top soil (covered by sand and saprolite or soft rock). This will be removed and separated during the course of quarrying. The topsoil so removed will be stacked separately and will be used judiciously for plantation purposes. Precautions will be taken to limit the height of the topsoil dump to 5–6 m in order to preserve its fertility and shelf life. It will be suitably protected from soil erosion and infertility by planting fodder grass and leguminous plants during temporary storage.

#### **3b. Regional Geology:**

The regional geology of the proposed quarry area is determined based on the regional geology of Guyana (1:1,000,000 scale) and limited rock outcrop location information from the Guyana Geology and Mines Commission. The proposed quarry area consists of scattered and discontinuous Granite, gabbro, and Granodiorite outcrops. Once approvals are granted, the Company plans to implement a detailed exploration program, including localized geological and structural mapping, sampling of rock outcrops, clearing the outcrop area, and drilling to evaluate the extent and quality of resources.

Preliminary investigation of the area indicated the area has gabbro, granite, and granodiorite intrusive igneous rock masses or outcrops. Expected is a typical Granite is a coarse-grained (phaneritic) intrusive igneous rock composed mostly of quartz, alkali feldspar, and plagioclase. It forms from magma with a high content of silica and alkali metal oxides that slowly cools and solidifies underground. It is common in the continental crust of the Earth, where it is found in igneous intrusions. Granite is nearly always massive (lacking any internal structures), hard, and tough. These properties have made granite a widespread construction stone throughout human history.

Granodiorite is a coarse-grained (phaneritic) intrusive igneous rock similar to granite but containing more plagioclase feldspar than orthoclase feldspar. According to the QAPF diagram, granodiorite has greater than 20% quartz by volume, and between 65% and 90% of the feldspar is plagioclase. A greater amount of plagioclase would designate the rock as

tonalite. Granodiorite is one of the stable rocks for quarry material that sustains nature's weathering activities. Granodiorite is felsic to intermediate in composition. It is the intrusive igneous equivalent of extrusive igneous dacite. It contains a large amount of sodium (Na) and calcium (Ca)-rich plagioclase, potassium feldspar, quartz, and minor amounts of muscovite mica as the lighter-colored mineral components. Biotite and amphiboles, often in the form of hornblende, are more abundant in granodiorite than in granite, giving it a more distinct two-toned or overall darker appearance. [Note: Q=quartz, A=alkali (K, Na, Al) feldspar, P=plagioclase (Na-Ca feldspar), and F=feldspathoid (minerals similar to feldspar but with low silicon content)].

### **3c. Flora and Fauna:**

Based on the information available to us, our reconnaissance, and our conversations with adjacent loggers, the following species of trees are likely to be on site: Bat Seed, Brown and Yellow Silverballi, Dukali, Fukadi, Itebali, Munirdan, Shibadan, Simarupa, Wamara, White Cedar, Tatabu, and Tauroniro. More detailed mapping of the flora and fauna has not been carried out.

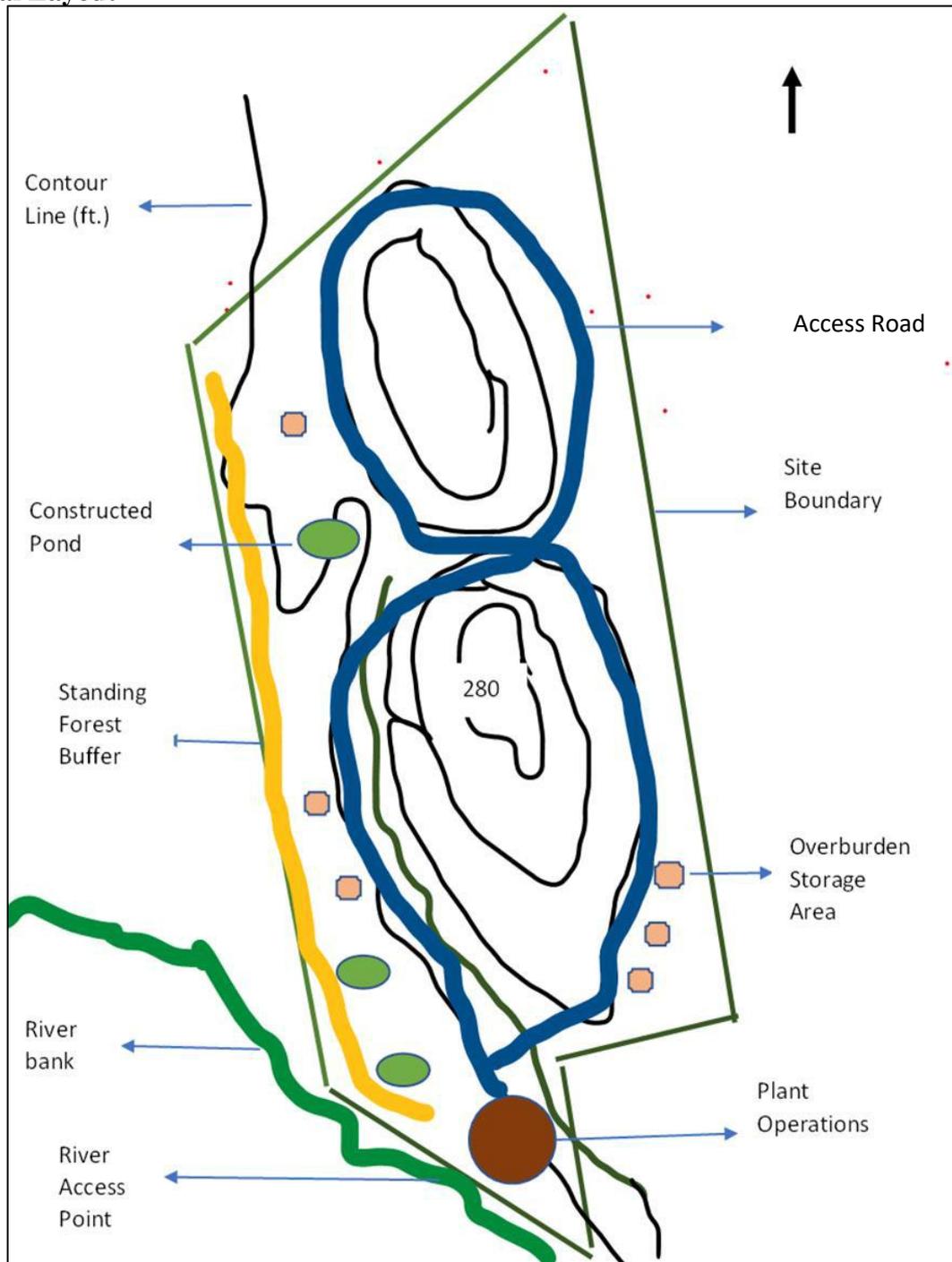
### **3d. Social Environment**

As indicated above, there are no other activities taking place. No one appears to be active in this area. There is currently no activity on the site. No infrastructure or people are on site. Logging activity is taking place to the East of the proposed Site. There is limited information on the scale and extent of the logging operation.

#### 4. Project Layout

Access to the Site will be from the Corentyne River. Barges will come alongside a docking facility to be constructed using primarily stone and wood obtained onsite. The site drains towards the Corentyne River; hence, any surface run-off and drainage will be towards this River. Non-potable water for the washdown of plants, equipment, and vehicles will be taken from the River. Drainage structures, including sedimentation ponds, will be constructed to reduce sediment in runoff. The precise locations of these ponds will be determined from topographical surveys. The major discharge point will be from the Operations Area. A general description of the proposed layout of the mining project is presented below in Figure 4:

##### General Layout



## **5. Project Design**

The project's lifespan is anticipated to be 20 years.

Several reconnaissance visits and site inspections have been conducted. No development has taken place on site yet.

Below are the main stages in the development of the project.

1. Undertake a detailed exploration program, including localized geological and structural mapping, sampling of rock outcrops, clearing the outcrop area, and drilling to evaluate the extent and quality of resources. ID and confirm site boundaries, access roads, detention ponds, and overburden storage areas.
2. Mobilization of construction equipment and materials on site
3. Dredging, Dock Construction and clearing of accessways
4. Clearing, grading, and backfilling for Plant and Aggregate Processing
5. Land, plant, and Equipment on site, and set-up of the site office and residential premises (accommodation)
6. Selection of the first cut and clearing of vegetation and overburden
7. Commence extraction (which includes overburden removal, drilling and blasting, secondary fragmentation, digging, loading and hauling, processing, and transport of the product via river barge).
8. Continuous operations: extraction, processing, and transport via river barge
9. Progressive reclamation, maintenance of detention ponds, internal accessways, and environmental management
10. Decommissioning and Reclamation

## **6. Main Activities and Operations Area**

The main components in the Operations Area are shown in the schematic below.

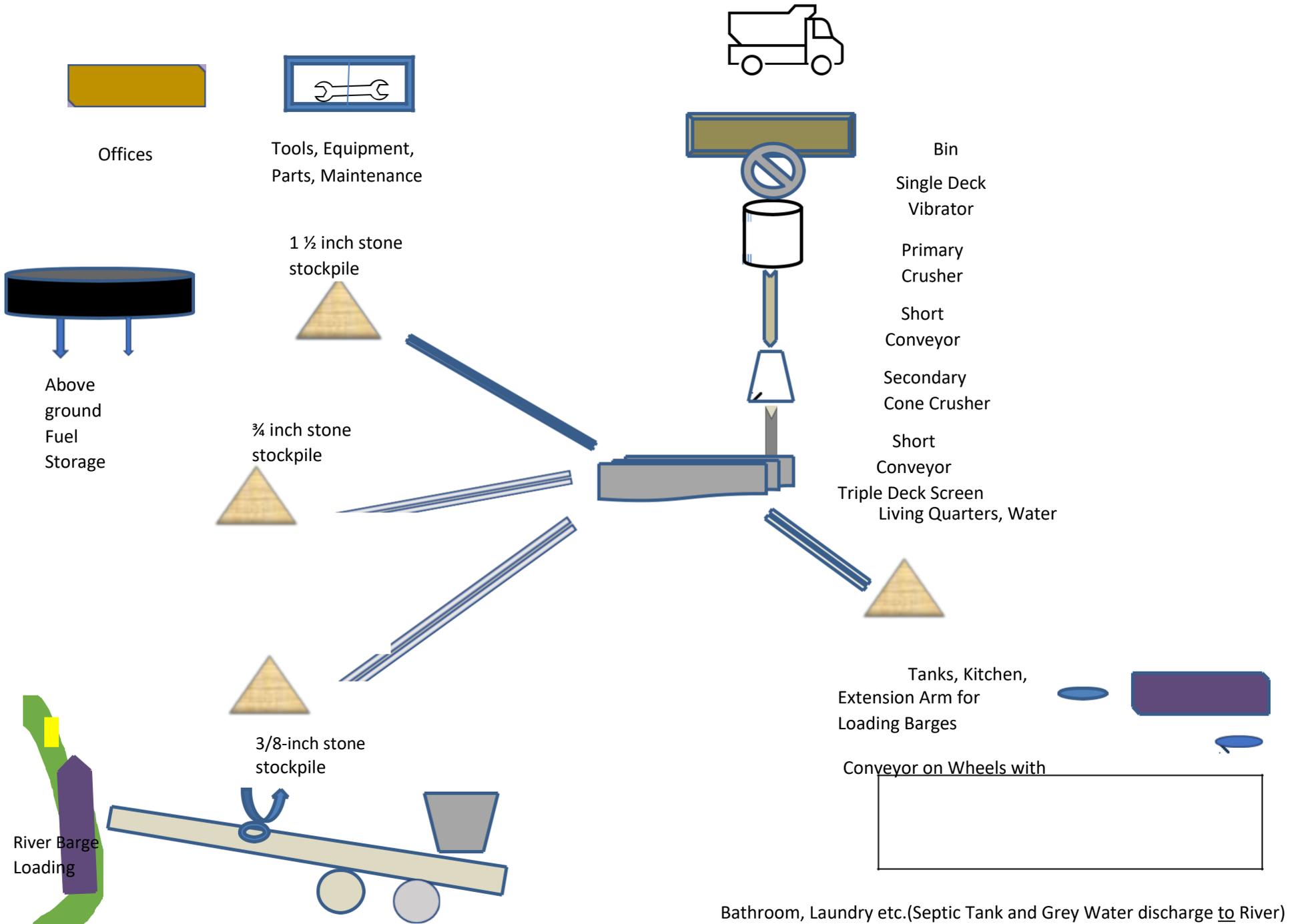
Access roads will be developed on site as per the general Layout. No bridges are foreseen. A generator will be brought onsite and is included in the list of equipment above. Quarried boulders will be hauled and loaded into the bin. These will be crushed, screened to the desired size, and conveyed to surround stockpiles. From there, stone will be lifted, placed on a mobile conveyor with a swing extension arm, and loaded onto a barge at the docking facility.

The approach to the extraction of the granite will be to mine the two elevated areas first. To prevent flooding and control runoff, detention ponds will be constructed along the gradient of the exposed areas. These ponds will trap silt, which will be removed periodically and disposed of at Overburden Storage Areas. The purpose of the ponds is to control drainage and retain as much sediment as possible on site.

The quarry working face, access road, and operations area will be cleared. Clearing will be kept to a minimum. At any time, less than 1% of the total site area will be exposed. Once excavation is complete, the area will be backfilled, graded, and revegetated.

Removed vegetation, cuttings, trees, and overburden will be disposed of and contained on site at multiple dedicated locations, as shown in the indicative General layout above. The overburden will be reused in our proposed process of "progressive reclamation". This means that when an area has been fully quarried, it will be recovered with overburden to maintain an even grade and support the regrowth of vegetation.

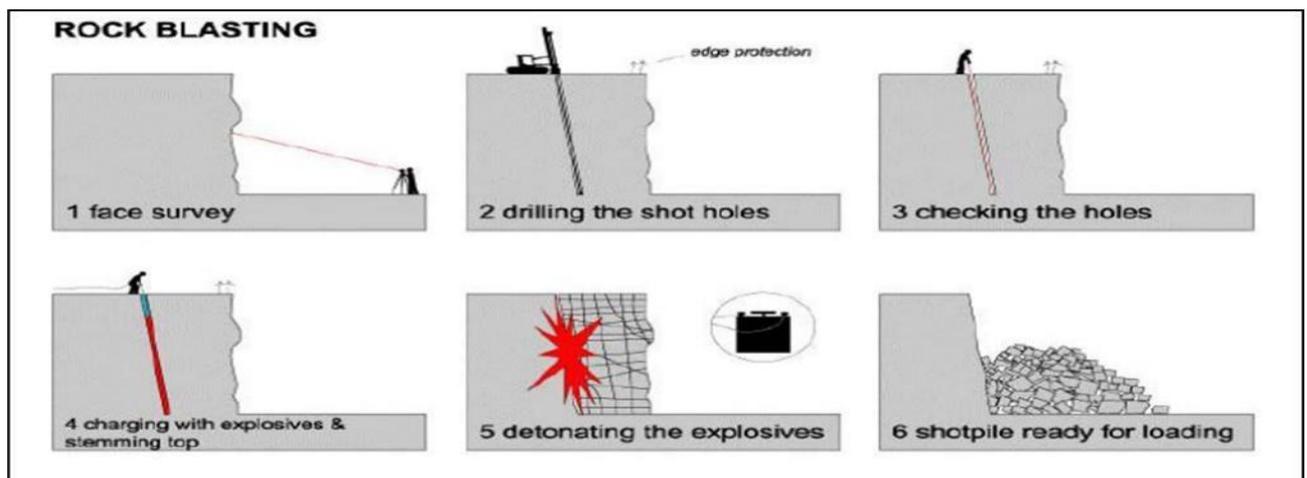
Excavation, grading, and blasting are routine parts of quarry operations. These shall be carried out in compliance with GGMC's "Mining Environmental Management Code OF Practice for Quarrying. It is anticipated that for the construction of the river docking facility for access and loading of barges, dredging of the river will be required. Dredged materials will be dewatered and used as backfill in the docking area. The riverbank will be stabilized and altered at the docking facility. Dredging will be required to create the necessary depth for barge access. Barge access and departure will take place during the rising and high tides.



## 7. Blasting

Controlled bench blasting will be undertaken to "cut away" the granite from the elevated rock formation in preparation for processing to the desired size. The broken rock will be loaded on haulers or conveyors and transported to the processing plant for crushing and sizing. The size, height, and width of the benches will be established in the quarry or mine plan to be approved by GGMC. Accompanying environmental impacts associated with blasting include ground vibrations, dust emissions, "fly rock", and air blast pressure.

The ground vibrations and the air blast pressure are generated in a remote area. Operators will wear protective gear and earmuffs. Wildlife in the vicinity will disperse. The blasting contractor will make every effort and use all applicable techniques to minimize or mitigate the adverse environmental impacts. The blaster in charge will have a certificate of competence for blasting issued under the Explosive and Blasting Act (GGMC). The blaster in charge will have total responsibility for all aspects of blasting, including safety, control of the blast site, blast pattern design, loading of explosives, detonation, post-blast coordination, and maintenance of the blast record.



## 8. Key Equipment

A mobile dry stone crushing plant will be primarily deployed on-site for the manufacture of aggregates of various sizes (coarse aggregates, crusher run, rock sand, and other fine aggregates) from basalt boulders.



Output Potential	400tph (441 US tph) / 400tph (441 US tph)
Transport Dimensions	Width: 9'2" Length: 51'10" Height: 11'2" / Width: 2.8m Length: 16.1m Height: 3.4m
Working Dimensions	Width: 16'5" with side conveyor Length: 51'2" Height: 13'7" / Width: 5.01m Length: 15.6m Height: 4.13m
Weight	Tier 3: 102,515lbs, Tier 4F: 102,846lbs, Tier 4F Pre-Screen: 105,888lbs / Tier 3: 46,500kg, Tier 4F 46,650kg, Tier 4F Pre-Screen: 48,030kg
CSS Range	Min: 2" Max HA: 5.6" Max HR: 6" / Min: 50mm Max HA: 140mm Max HR: 150mm

Excavator



Hauler



*Barge loader*

Note that there are two options being considered a telescopic or ‘swing arm’ extension conveyor belt for loading barges. The picture shows fixed arm conveyor. This is also option. Choice depends on design of docking and loading areas, currently under preparation.



## 9. Personnel & Equipment List

Approximately 12 persons will be onsite for both construction and routine operations.

Equipment:

Equipment to be brought on site:

- 3 x Caterpillar excavators,
- 2 x D6 Caterpillar tractors,
- 2 x Cat 966 Front end Loaders,
- 2 x Cat off-road Dumpers,
- 1 x 200 Kx Generator,
- 1 x Excavator hammer

Cedar Rapid Dry Crushing Plant (Primary Crusher Jaw, Secondary Crush Cone,

4 x Dry Plate Screening

Plant, Conveyor for Finished

Product).

2x 40ft containers (Kitchen, food sharing, Sleeping Quarters, Restroom)

1x 20ft container (Manager  
 and Staff Offices). 1x 40ft  
 container storage for parts.

6 x 1000 gal water storage tanks (domestic use)

**Miscellaneous tools** – welding plant, Compressors, Cutting Equipment, Power Tools.

Cooking facilities will be required. Additional water storage will be required for washdown of plant and operations areas.

### Resource and Monthly Production

Proposed Quarry Stone Area	Outcrop Length (m)	Width (m)	Height / Depth (m)	Volume (in m3)	Total Reserves (in Tons)
Area-1	500	65	14	455000	1228500

Monthly production (estimate) tonnes = 350000 ton/year. Per month = 26,250 per month.

## 10. Potential Impacts, Significance & Mitigation

Adverse impacts in the construction phase are opening up the "working face" of the quarry, creating access roads, and clearing to make space for the footprint of the Processing Area. Dredged materials can be compacted and used to build up an elevated area of roughly 3 to 5 acres to support operations and material storage.

Sewage will be directed to the septic tank and river discharge.

Kitchen and grey water waste will be strained, and effluent will be connected to septic tank discharge.

Quarry face runoff will be directed to the detention pond.

Machine oils, lubricants, and containers are to be stored and transported off site to an approved landfill three times per year.

Fuel to be stored in a covered 'bunded' area

No materials containing tar, oil, grease, or any poisonous substances will be discharged onto the surface of the land or into rivers. A fuel containment bund with an impervious surface will be constructed for the handling of tars, all oils (including waste oils), lubricants, and fuels. All oils will be collected and stored in enclosed areas on site until they are ready for reuse or disposal at approved sites or centers offsite. The heavy vehicle storage and maintenance facility will contain drainage sumps to capture and contain spills and runoff. A maintenance schedule for vehicles will be implemented and followed.

Removal of vegetation, overburden, blasting, and excavation

### **Mitigation measures:**

- Build separate piles for topsoil, overburden material and waste rock.
- Locate topsoil, overburden and waste rock piles as far away as possible from surface waters, springs, seeps and wetlands (swamps and marshes).
- Locate and construct piles so that the potential of failure is minimized.
- Take preventive measures to avoid water and wind erosion.
- Keep topsoil biologically active to retain its value as a plant growth medium.
- Where possible use top soil and waste rock immediately to rehabilitate disturbed sections of the quarry.

Blasting, quarry face excavations and crushing plant

Most of the dust is expected to be generated by the crushing plant and in the dry season from the stock piles. The impact of this is expected to be minimal and likely to only affect on-site working conditions.

**Mitigation measures:**

- Maintenance and watering of roads
- Enforcement of lower truck speeds on site
- Watering and covering stockpiles
- Isolation of crusher and other dust-generating equipment

Crushing plant is main generator of noise. This is expected to be between 60 to 80 decibels at source.

This will decline to 40 to 50 decibels at about 50 meters away from source. Limited impact on surroundings. Operators of plant are most impacted.

Mitigation measures:

Mandatory wearing of ear muffs/plugs specified for the purpose of operating stone crushing machinery

All loaders and vehicles will be sealed for dust and noise.

Accommodation and living quarters will be screened and sound proofed to reduce noise impacts

Table-1 List of Potential Impacts, Significance & Mitigation.

<u>ACTIVITY</u>	<u>IMPACT</u>	<u>SIGNIFICANCE (magnitude, complexity, probability)</u>	<u>MITIGATION /MONITORING</u>
1. Undertake a detailed exploration program including localized geological and structural mapping, sampling of rock outcrops, clearing the outcrop area and drilling to evaluate the extent and quality of resources. ID and confirm site boundary, delineate, access roads, detention ponds and overburden storage areas	Removal of vegetation	Low	Activity documentation and information recording
2. Mobilization of construction equipment and materials on site	Removal of vegetation. Ground compaction. Alteration to river bank at entry point	Low	Log mobilisation activity
3. Dredging, Dock Construction and clearing of accessways	Raising of sediments. Alteration of riverbank. Loss of vegetation. Some loss of vegetation and change to river bank and bed	These are considered minor impacts due to the vastness of the surrounding forested areas. Dust and noise. High probability	Mitigation measures would be to retain overburden and reuse in a “progressive reclamation” plan. A vegetated buffer zone of 200 to 400 meters of standing forest will remain untouched to reduce sediment runoff into river. Dredge materials can be placed on the riverbank and dewatered. Dredged materials can be compacted and used to build up elevated area of roughly 3 to 5 acres to support operations and materials storage.
4. Clearing, grading and backfilling for Plant and Aggregate Processing	Loss of vegetation/habitat	Long term. Moderate due to relatively small footprint on overall site area	Construction will take place in the dry season.

<u>ACTIVITY</u>	<u>IMPACT</u>	<u>SIGNIFICANCE (magnitude, complexity, probability)</u>	<u>MITIGATION /MONITORING</u>
5. Land Plant and Equipment on site and set up of site office and residential premises (accommodation)	Change to landscape	Minor. Intermediate	Inventory of equipment and materials
6. Selection of first cut and clearing of vegetation and overburden	Loss of flora and fauna	Minor	Logged in Management Plan
7. Continuous extraction (include overburden removal, drilling and blasting, secondary fragmentation, and digging, loading and hauling, processing and transport of product via river barge	Loss of flora and fauna, habitat. Dispersion of wildlife. Increased sedimentation in river. Dust and noise. Health and safety risks to operators. Increased river traffic (2 to 4 barge loadings expected per week)	Moderate. Remoteness of site means only equipment and plant operators affected. Vastness of forested area and river flows render impacts manageable.	Most important is minimising area of exposed quarry face. On-going construction & maintenance of sedimentation ponds. A vegetated buffer zone of 200 to 400 meters of standing forest will remain untouched to reduce and trap sediment runoff into river. Store and contain overburden for reuse. Enforcement of Health and Safety plans (earmuffs, sound proof vehicle cabins, living quarters). <ul style="list-style-type: none"> <li>• The blast-hole size, spacing and burden, the loading of the charges, the detonation and delay patterns should be adjusted after every blast to optimize the results as necessary.</li> <li>• Secondary fragmentation with explosives should not be practiced unless specific approval is given.</li> <li>• Blasting should be limited to the specific working hours stated in the blasting permit</li> </ul>
8. Progressive reclamation, maintenance of detention ponds,	Significant preservation of river water quality and recovery of habitat,	Significant. High probability	Ensure activity is built into environmental management plan and mine management /quarry operations planning

<u>ACTIVITY</u>	<u>IMPACT</u>	<u>SIGNIFICANCE (magnitude, complexity, probability)</u>	<u>MITIGATION /MONITORING</u>
internal accessways and environmental management			
9. Decommissioning & Reclamation	Ending of operations and removal of all plant and equipment. Grading and contouring of utilised areas to create uniform grade. Restoration of flora and recover of habitat. High impact	High. Strong probability. Long-term	Built into environmental management and quarry management plans
10. Cumulative Impacts	Two other quarries have been identified by GGMC. It is difficult to estimate to probability of three operational quarries. Increase in river traffic	Significant. Long-term. Complex.	Strict enforcement of environmental and quarry management plans. Coordination of barge operations.
11. Transboundary Impacts	Affect Suriname side of river	Low probability	Include in Long-term Monitoring of flora on opposite side (annual photos)

## **11. Public Consultations**

Consultations have taken place with GGMC as part of the Conditional Approval issued. No public consultations have taken place.

## **12. Assumptions and Uncertainties**

Estimates of the quantities of available granite were made by GGMC. Depoo Consulting will be carrying out detailed investigations to prove resource availability.

The Guyana real estate and infrastructure development sector has witnessed high growth in recent times with increasing demand for buildings, roads, drains, office, and residential infrastructure. The demand for building stone is unprecedented and growing. According to news reports, demand could reach 1.5 million metric tons over the next two years, although the country is producing 650,000 metric tons per year. It is assumed that current growth projections will continue and the proposed investments in quarrying will prove economically viable.

Based on our site reconnaissance, knowledge of quarry operations by the developers, and the authorisation requirements of the GGMC and EPA, we are confident that the assumptions made are valid and the uncertainties minimal. Details of quarry operations and environmental safeguarding will be laid out in detail in the mine plan and Environmental Management Plan. These will include details of activities, impacts, mitigation, and monitoring required to ensure operational efficiency, minimize impacts, verify assumptions, and reduce uncertainties to a minimum. The following environmental and health safeguarding elements are expected to be integrated into the Mine Plan and considered:

1. EMISSIONS TO AIR (DUST/ PARTICULATES)
2. EMISSIONS TO AIR (GASEOUS POLLUTANTS)
3. BIODIVERSITY IMPACTS
4. IMPACTS TO LAND
5. IMPACTS TO SURFACE WATER
6. NOISE AND VIBRATIONS 3.4.7 ENVIRONMENTAL ASPECT
7. GENERATION OF SOLID WASTE
8. GENERATION OF LIQUID WASTE
9. GENERATION OF HAZARDOUS WASTE
10. USE OF ENERGY RESOURCES
11. USE OF WATER RESOURCES
12. OCCUPATIONAL HEALTH AND SAFETY (OH&S)

### **13. Non-Technical Summary**

Depoo Consulting Inc. has received Conditional Approval from the Guyana Geology and Mines Commission to operate a granite mine in the area off the banks of the Corentyne River. The granite will be used for construction, road building, and the development of physical infrastructure in Guyana's economic boom, made possible by the emerging oil industry. About 26,000 tons per month of granite are estimated to be produced from the mine. The quarry area (License D-1002/000/2) is located on the left banks of the Corentyne River in the East Berbice Mining District. The site is approximately 35 km from Orealla and 105 km from Skeldon settlements (on the border area between Guyana and Suriname). It occupies Terra Survey topographical sheets 46 SE of 1:50,000 scale on the PSAD (Provisional South American Datum 56) and a total area of 1500 acres. see the location maps shown above.

The site is rectangular in shape, comprising 1500 acres. The site has two ridges. Quarrying will take place above ground level. An operations site will be cleared near the riverbank. Access roads will be constructed and maintained, linking the operations area to the base of the first ridge. Trees, vegetation, and topsoil will be removed from the first ridge to allow access to the granite below. Topsoil will be stockpiled in such a manner that it can be reused to reclaim quarried areas. This means that soil and rock will be returned to quarried areas to encourage regrowth. The area of exposed rock will be kept to a minimum to allow access, drilling, blasting, and excavation.

Excavated boulders will be trucked to the crushing and screening plant, which will produce aggregate of different sizes. The operations area will be elevated and graded using crushed and compacted rock and soil. This will protect equipment, plants, the service area, and stockpiled materials from flooding. Aggregate will be loaded onto barges. It is estimated that 2 to 4 barges per week will be loaded, depending on market demand. A docking area for barges will be constructed. The riverbank will be stabilized using wooden piles, backfilled, and paved to provide stable ground for the conveyor and loading equipment. The crushing plant and conveyor equipment will all be on mobile tracks, so they can be moved and repositioned as required.

One of the most important operational considerations for the quarry is to minimize sediment run-off. A buffer zone between the river and the quarried areas will be maintained. This means that trees and vegetation will be left standing. Ponds will be constructed and maintained to receive runoff and trap sediment.

Ten to twelve trained individuals will be onsite full-time and on a rotational basis. They will have accommodations near the operations areas made up of living quarters with cooking facilities. One of the main considerations will be the dust and noise generated. Health and safety concerns will be important to address. Emergency response to potential accidents will also be considered. A Mine Plan and Environmental Management Plan will be integrated into operations. These are to be approved by GGMC and the EPA prior to the commencement of operations.

The first actions will be to undertake a detailed exploration program, including localized geological and structural mapping, sampling of rock outcrops, clearing the outcrop area, and drilling to evaluate the extent and quality of resources. Then we will identify and confirm the location of the site perimeter, lay out access roads, detention ponds, and storage areas for removed vegetation, soil, and unused rock. These locations will be mapped and included in the mine plan.

Equipment and materials will be brought to site to construct the docking facility. Local wood and stone will be used to the extent possible. The barge access area will be dredged. Dredged materials will be used to backfill the loading area. Construction equipment will be brought to site to establish an elevated footprint for the operations area. Once this is complete, prebuilt, modified containers will be brought to site. All plant, equipment, and materials will be brought to site and positioned. Diesel for plants, equipment, and trucks will be brought to a specially constructed elevated storage tank. The storage area will be protected to prevent and contain any potential spillage. The workshop, equipment, and vehicle service areas will be similarly isolated to trap and contain runoff. Hazardous materials like spent fuel will be containerized, barged, and trucked to a landfill dedicated for this purpose.

Routine operations will include blasting, extraction of boulders, haulage to the operations area, crushing, stockpiling, and loading onto conveyors that will load the barges. Operations are being designed for a twenty-year period. The two elevated areas, or ridges, will be quarried first.

A process of progressive reclamation of quarried areas will be followed. At the end of the operations, it is expected that the site can be returned to the forest. All equipment, plants, and vehicles will be removed from the site.

We intend to comply with all laws, guidelines, and directives issued by GGMC and the EPA.