

ANNEX I

GEOLOGICAL SYNOPSIS AND FLUVIAL SYSTEM IN TIMOR-LESTE FOCUSING ON SELECTED RIVERS FOR LARGE-SCALE SAND AND GRAVEL EXPLORATION AND EXTRACTION FOR EXPORT PURPOSE

1. Geology Synopsis

Geographically, the Timor Island is part of the Southeast Asia, located between the Indonesian archipelago and Australia. The onshore territory of Timor-Leste encompassing eastern half of the Timor-Island; an enclave, Special Administrative Region of Oecusse-Amberno (RAEOA) located in western part of the Timor Island; Atauro Island (a special municipality) and Jaco Island located on the eastern end of the Timor Island (Figure 1). The total onshore area of Timor-Leste is approximately 15,007 km². As an island country, Timor-Leste has mountainous terrain and has abundant rivers and streams within its territory which contain abundant materials suitable for construction. These materials have been continuously used to support the development and infrastructure within the country.

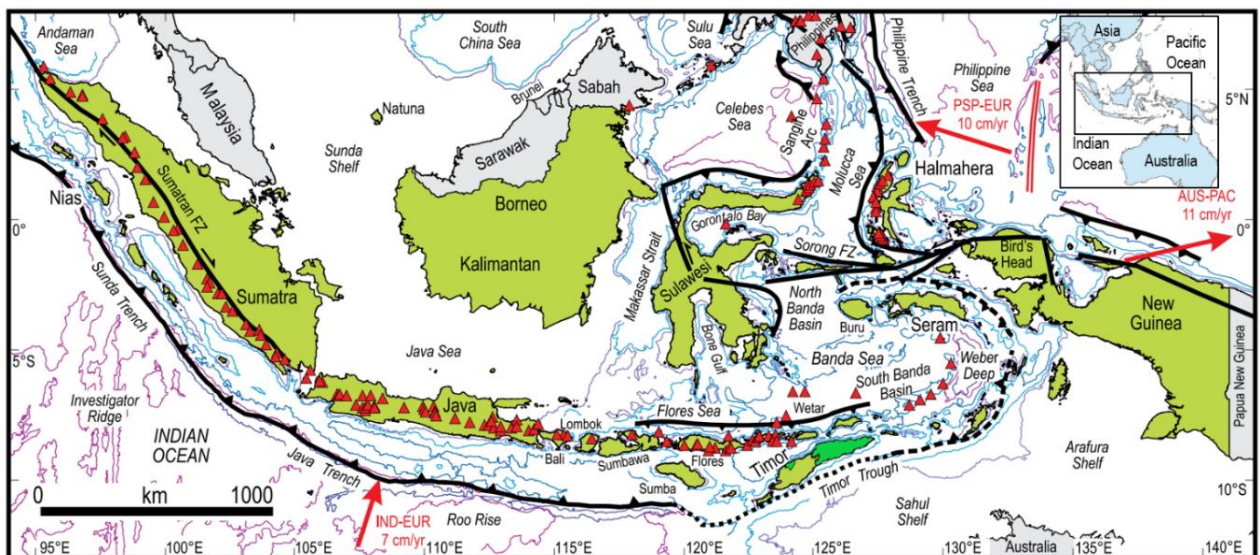


Figure 1: Geographical location map of Timor-Leste (green) within the Indonesian region (lime green) showing present tectonic boundaries and volcanoes. Bathymetric contours are at 200m, 100m, 3000m, 5000m, and 6000m. Red arrows show convergence vectors for the Australian Plate relative to Pacific Plate (AUS-PAC), and the Indian and the Philippine Sea plates relative to Eurasia, IND-EUR and PSP-EUR, respectively (adapted and modified from Hall 2008).

The presents of these materials within the territory of Timor-Leste are the result of the long geological processes from the formation of the Timor Island. The Island of Timor is known to form due to the collision between the Banda Arc and the Australian Continental Margin in the fore-arc region, as a result the island composes of juxtapose lithology from both Banda Arc and Australian crust (Hamilton 1979; Von der Borch 1979; Audley-Charles 2004; Harris 2011; Duffy et al. 2013). It well known that the collision events play an important role in uplift and mountain

building (orogeny). Typically, young collision belts are characterised by mountains, fold and thrust belts, zones of intense deformation and metamorphism, obduction of ophiolites, and intrusion of post-collision crustal-derived granitoids (Pirajno 2009; 2016) as in the case of Timor (Harris 2011). It is noted that some of the highest rates of sediment production in the world are associated with areas of tectonic uplift (Charlton 2008).

The overall lithology of the island consists mainly of sedimentary and metamorphic rocks with some igneous rocks that derived from the Banda Arc and Gondwana Sequence part of the Australian Margin as well as the result of collision. The sedimentary rocks are predominantly limestone, shale, conglomerate and siltstone with some minor sandstone and chert (Audley-Charles 1968). Igneous rocks such as basalt, dacite, tuff, diorite, dolerite, andesite, and peridotite are found within the country (Audley-Charles 1968; Lay et al. 2017; KARVAK 2021; ANPM 2022a, b). Some of the metamorphic rocks that exist in the country ranges from phyllite, slate, gneiss, amphibolite, serpentinite, and quartzite (Audley-Charles 1968; KARVAK 2021). These rocks are the type of rock fragments that weather and eroded then transported as boulders, cobbles, pebbles, granule, sand, silt to clay size material within the rivers and streams in Timor-Leste.

2. Fluvial System in Timor-Leste

Rivers are one of the sources of water on the Earth's surface and have function of draining floods, supplying drinking water, irrigating farmland, transporting sediment, supplying power (hydropower), providing habitat for fishes, assimilating wastewater, and in some case providing navigation (Wang et al. 2015). Rivers have diverse forms and are dynamic in nature reflecting the environment in which they are found. River channels adjust and evolve over time (range from seconds to tens of thousands of years). Understanding of how the river systems operate and respond to change is needed for successful river management (Charlton 2008). Climate / fluctuation in weather, geology, vegetation covers, and topography are factors that influence river/fluvial systems.

As a natural drainage of the land, majority of rivers flow to the oceans while some drain to inland seas and lakes or dry up (evaporated) before reaching the ocean. Each river drains an area of land called its catchment (also known as drainage basin), which supplies water and sediment to the river channel. The catchment is usually bounded by a drainage divide or catchment boundary, which can be clearly visible as ridge in mountainous areas but can be hard to discern in areas of

subtle topography (Charlton 2008). The outlet, where the main channel exits the basin, is at a lower elevation than the rest of the basin area.

The size of the river channel varies and is largely determined by the discharge supplied from its upstream tributaries. In the upper reaches of a river, the area drained and hence the discharge is relatively small. As we move downstream, discharge and channel size generally increase with the upstream drainage area (Figure 2). Almost all the major rivers in Timor-Leste have drainage basin which drain to the ocean. The size of the catchment or the drainage basin varies, the largest river system within the country, i.e., Loes River, has the largest drainage basin. These major rivers are mostly perennial river with fluctuating water level during the rainy and dry season. During rainy season, in the month of December – April, heavy rainfall typically results in episodic flash flooding which can carry abundant sediments from upper reach of the rivers and most of the time can change the direction of the channel.

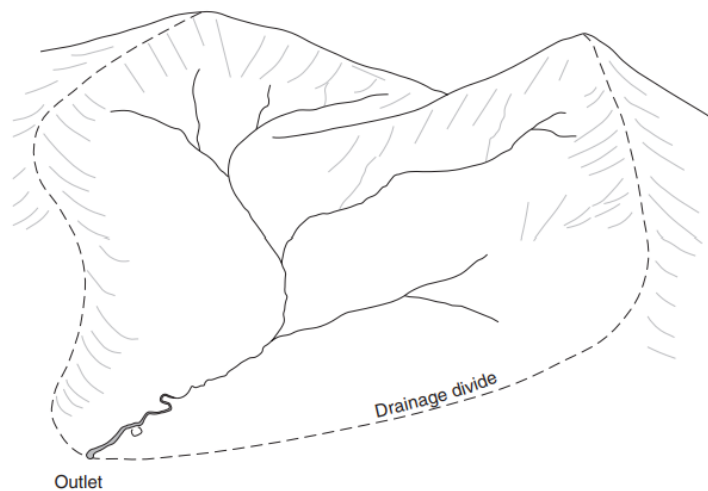


Figure 2: The catchment is the area of land drained by each river (adapted from Charlton 2008).

Water and sediment are transported from the hillslopes to the basin outlet via drainage network, the shape and density of drainage networks varies considerably and no two are the same (Charlton 2008). The network morphology is controlled by the underlying geology, although topography, soil, tectonic history, and climate also influence the drainage network. The drainage network present in Timor-Leste consist of dendritic (tree-like), parallel and rectangular (Figure 3). Dendritic drainage network has a random pattern and are found where there is no strong geological control, while parallel drainage network develops where is a strong regional dip (slope). Rectangular network occurs where two sets of structural controls run at right angles to each other. Even though drainage patters are used in the interpretation of tectonic influences and

underlying structural controls, however they may not always be a close correspondence (Charlton 2008).



Figure 3: The fluvial system in Timor-Leste showing its drainage network patterns that supply water and sediment to the major rivers within the country.

The drainage network typically come together to form channel (s) prior to reaching the outlet of a drainage basin. Channels are typically forms in unconsolidated alluvium which offer less resistance toward erosion which was deposited on the valley floor by fluvial processes (Charlton 2008). All the rivers in Timor-Leste are alluvial rivers which mean that they are deposited on alluvial sediments which is term as Quaternary alluvial in geological map. Alluvium can include a mixture of unconsolidated particles ranging in size from boulders, gravels, and sand to finer deposits of clay and silts. There are a number of known alluvial channels around the world such as straight, meandering, braided, and anabranching / anatomising. In Timor-Leste, majority of the rivers have braided channels (Figure 4), which characterised by numerous bars and islands formed by sediment deposits in the channel. Braided channels tend to be relatively wide and shallow in comparison to meandering channels, which have a narrower, deeper cross-section (Charlton 2008; Azarang et al. 2019). The appearance of the braided channel varies with changing of flow

conditions. During high flows, many of the bars become partly or wholly submerged giving the appearance of a single wide channel, which typically seen during flash flooding within the country. While, during low flows, extensive areas of bar surface may be exposed as shown in Figure 4.



Figure 4: Braided River channel from a section of the Loes River during low water condition. The channel is approximately 1 km wide. Image from Google Earth.

Braided rivers are typically associated with high rates of energy expenditure, which is involved in the transport of large volumes of sediments with steep channel slopes. The channels of the braided river are highly dynamic with frequent shift in channel position which can occur over relatively short period of time (days to years). Moreover, an abundant supply of bed load is required to form bars for the braided rivers, which is supplied from the upstream catchment area with additional rivers/streams bank erosion. The bars themselves can be formed from sand, gravel, or boulders. These are observed on the major rivers in Timor-Leste, the amount of sediment transported, and the change of the braided river channels typically occurred during rainy season, particularly during flash flooding where the channels are typically completely submerged to form a single channel which carries enormous amount of sediment and the braided channels typically shift position once emerge when the water is drained. The smaller rivers are episodic, only contain water during heavy rainfall and completely dry-up after.

Rivers and streams continuously shape and reform their channel through erosion of beds and banks which can lead to channel widening or scouring of the channel beds which can deepens the channel, as well as through the reworking and deposition of sediments which reduces the depth and can lead to the formation of channel bars as in the case of the braided rivers (Charlton 2008). Rivers flow from higher to lower elevation across the land surface under the influence of gravity. Normally, throughout the section of the river channel, different size materials are deposited. Coarser material such as boulders are deposited closer to the parent rocks (upper reaches of a river) while finer-grain materials such as clay and silt are transported further than gravel and sand which may come and rest in the stream channels to form a significant resource that may be continuously or seasonally replenished (in the middle and lower reaches of a rivers), especially in large river channels and mountainous tracts (Smith & Collins 2011).

The material accumulated as sand and gravel within the rivers and streams is the result of erosion from their parent rocks by physical weathering process and then worn and sorted by water. The properties of the gravel and sand depend largely on the lithology from which they are derived, although during their transport prior to deposition weathered or otherwise weaker fragments tend to be selectively worn away so that the resulting aggregate material is usually stronger than the crushed parent rock (Smith & Collis 2011).

3. **Types of Alluvial River Sand Extraction**

In general, there are two main methods of sand and gravel extraction from alluvial rivers, (1) active channels (also known as instream mining), and (2) near-channel from floodplain and overbank areas or terraces (Langer 1990; Padmalal & Maya 2014). The mining of sand and gravel from the river through either method is inevitably can alters the sediment budget of the river and change the river system as a whole. Typically, quarrying of sand and gravel extraction is done in transfer (middle reach of the river) and some part of the deposition zone (lower reach of the river).

1) Instream Mining

The extraction of the gravel and sand from active channel is known as instream (in-channel) mining (Figure 5). Typically, gravel and sand in active channel or bars are extracted by using floating barge with hydraulic dredge and require less processing than any other sand sources (Padmala & Maya 2014). In many parts of the world, such as in U.S. and part of Asia, sand and gravel from the middle and lower reaches of the major rivers are the source of the often large

volumes of dredged sand suitable for many applications, especially land reclamation and sea defence schemes (Smith & Collins 2011).



Figure 5: Images showing sand mining and dredging from active river (in-stream mining) in Kuakhai River in Bhubaneswar, India (left) and sand dredging in Amazon Region, Brazil (right). Image source from ecowatch.com and dreamstime.com.

The dredging of aggregate from active river channel ('in-stream mining') has significant contribution toward production. However, this practice may change the dynamic equilibrium of a river, although it improves land drainage but increase scouring and erosion of the channel as well as damage to bridge abutments, riverside buildings, and fishery interest (Smith & Collins 2011). The main causes of environmental impacts from instream mining is the removal of the sediment at a greater rate than the system can replenish (Langer 2016). Therefore, predictive modelling and monitoring of stream flow, sediment supply, channel gradient and meandering processes can be used to assist the management and control of dredging operations (Smith & Collins 2011). In Timor-Leste, there has not been any instream mining activities through dredging been carry out. Dredging at significant scale within the country has only been carry out in the ocean for the construction of port in the capital Dili and in Tibar area, Municipality of Liquiça.

2. Near-channel mining

Near-channel mining refers to the extraction of gravel and sand from the rivers which are deposited on the floodplain or river terraces or areas that stay dry at low stage (Figure 6; Padmala & Maya 2014). The excavation is typically done by using heavy equipment such as excavator or done manually. The sediment deposited on the floodplain typically occurs during flood event. Generally, the sand and gravel extraction from floodplain and terraces are considered preferable to removing sand from stream channels. The major impact associated with floodplain sand extraction may occur if, during flooding, the stream leaves its channel and creates a new channel (referred to as avulsion) through the pit (referred to as pit capture). The stream is most likely will

deposit its entire bed load in the pit, which may result in downstream erosion and its associated impacts such as river geomorphic characteristics, sediment transport, hydraulics, hydrology, water quality, and aquatic habitat which not only extend downstream but also upstream (Jacobs & Moroka 2014). These impacts can be controlled through construction of a controlled spillway in a levee along the stream (Langer 2016).



Figure 6: Images of sand extraction from near-channel mining.

Historically, the sand and gravel extraction in Timor-Leste mostly occur as near-channel mining in floodplain area from the middle or lower reaches of the rivers and streams. The sand and gravel from rivers are one of the main sources of aggregate for construction purpose. The extraction has been done to respond to the increase in the development around the country.

4. Selected Location for Sand and Gravel Exploration for Export Purpose

As the development around the world increases, the demand for the sand and gravel correspondently also increases, for various application from construction to land reclamation and much more. Timor-Leste has a number of major rivers (Figure 3) where majority of the gravel and sand are extracted from which primarily used as construction material in a small- to medium-scale project. The composition of the sediment within the rivers depends on the parent rocks in the area where sand and gravel are derived from.

From a number of major rivers that occur in Timor-Leste, there are a few of them that are selected as potential rivers for large-scale sand and gravel quarry for export purpose such as the Loes, Lacleo and Laleia Rivers that are all located in the north coast of the country. These rivers contain abundant sediments that have been transported from its catchments upstream and banks erosion.

They are braided flood-plain deposits of gravel and sand which show meander and spitting of sediment-choked stream (e.g., Figure 4).

1. Loes River

The Loes River is located approximately 73 km west from the capital Dili, between the Bobonaro and Liquiça Municipalities. This river is the largest river within the country and has the largest drainage basin (Figure 7A). The upper catchments of the rivers include rivers and streams from almost the whole Bobonaro Municipality and some part of Ermera and Liquiça Municipalities and even extend across the border to part of West Timor in Belu Regency. Therefore, the sediment deposited on the Loes River comes from the rocks occurred within the drainage basin as well erosion from the riverbanks in the area.

The drainage network within the Loes River is dominated by parallel pattern (Figure 7A), which may indicate that the strata is uniformly resistant and has strong dip / slope or there is strong structural control exerted by a series of closely spaced faults, monoclines, or isoclines in the area. The sediments deposited on the Loes River may have composition from various type of rocks from the Aileu Formation, Bobonaro Complex, Viqueque Formation, Wailuli Formation, Cablac Limestone, Aitutu Formation and Lolotoi Complex (based in geological map of Audley-Charles 1968) as these formations are located within the drainage basin / catchment area of the river (Figure 7B). The lithology of the mentioned formations is mainly composed of sedimentary rocks such as shales, sandstone, siltstones, mudstones, calcilutite, calcarenite, calcirudites, marl, and conglomerates; as well as some metamorphic rocks such as phyllites and other metamorphose sedimentary and eruptive rocks (based on geological map of Audley-Charles 1968 lithostratigraphy units). These rocks which have been broken down by weathering, is then transported down-slope by processes of mass movement and water erosion. The size of the broken-down fragment determine how far it is transported, the cobble and boulder size material will be located closer to the parent rocks, while smaller fragments such as pebble, gravel and sand to silt and clay material will be transported to the mid and lower reaches of the Loes River. The rock fragments can further be broken into its individual minerals. The mineral grain analysis of the sand from the Loes River contains quartz, lithic fragment, feldspar, muscovite, pyroxene, magnetite, zircon, olivine, and garnet grains (IPG 2014). With the presence of various lithology in the catchment area, there is also possibility of metallic mineral occurrence, either associated

with the rocks or occur as detrital grain associated with the alluvial sand. Therefore, geochemical analysis needs to be carried out to determine this possibility.

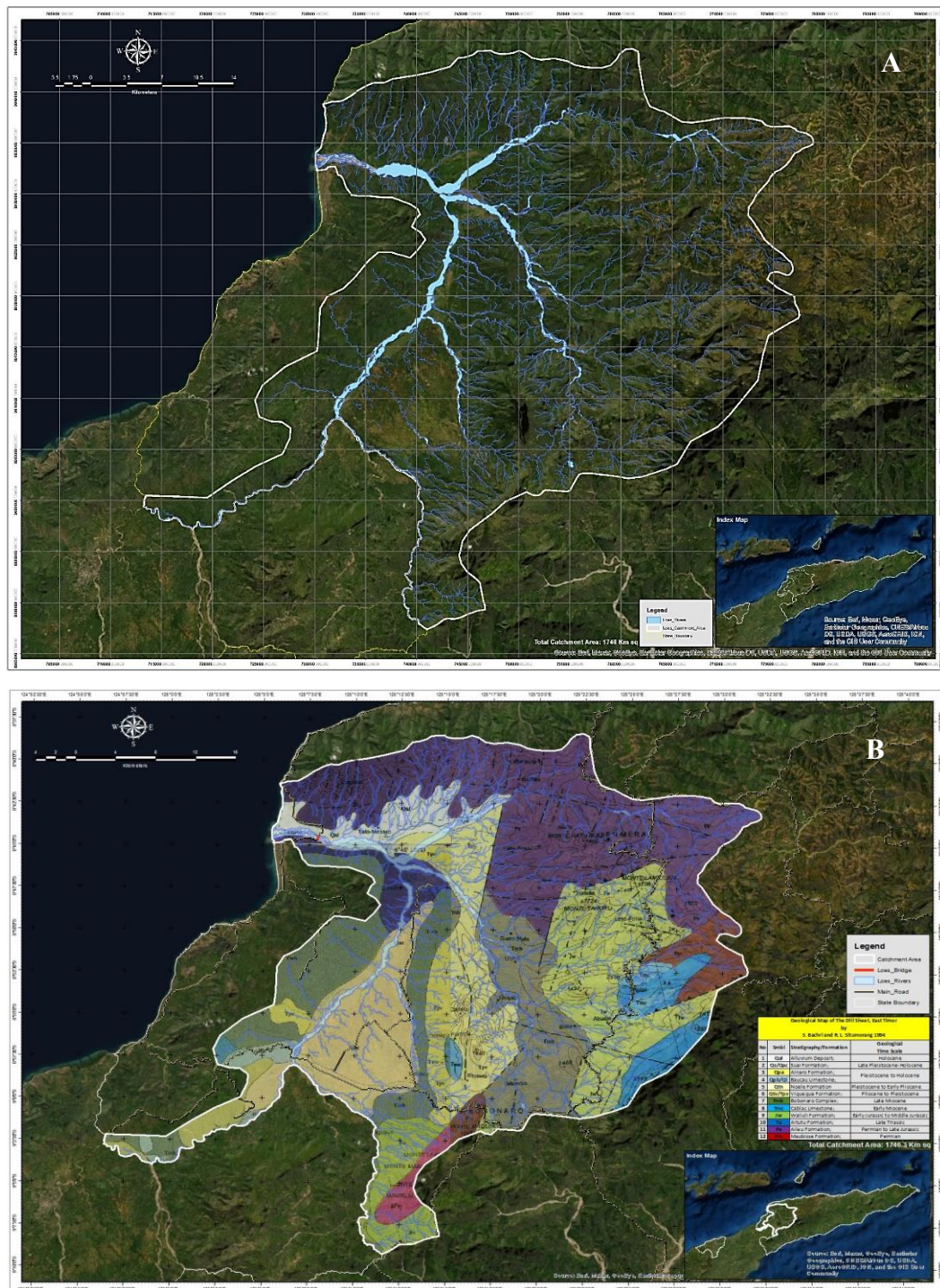


Figure 7: (A) Drainage basin / catchment of the Loes River which covers area from Bobonaro, Ermera and Liquiça Municipalities with an estimated catchment area of 1746 km². (B) Drainage basin overlay on the geological map showing various formations occur in the area.

The Loes River has variable width across its perennial braided river channel (Figure 4) from approximately 400 m to up to 1,400 m. The width of the river is wider in the lower reach and narrower toward upstream. There are a large number of gullies, creeks, streams and rivers that feed the Loes River as shown in Figure 7A. This contribute to the amount of sediments that been transported and deposited on the Loes River in the mid and lower reaches where the extraction of sand and gravel for the export purpose is allowed as shown in Figure 8. The main Loes River channel is formed by two major rivers, i.e., Marobo and Nunura Rivers (IPG 2014). To minimize the impact to the bridge abutment of the bridge located on the Loes River as well as the impact toward the shoreline, a distant of 500 m was allocated as a prohibited zone. According to Azarang et al. (2019) permissible distance between the sand and gravel mining site from the bridge structure varies in different standard from United States (150 m), India (200-500m), Iran (1000 m) and Malaysia ranges from 150 to 1000 m depending on the regulations within the province hence in Timor-Leste a distance of 500 m was selected as a buffer zone between the bridge structure and mine site. The estimated total surface area for sand and gravel exploration and extraction is approximately 834 Ha (combination of zone 1 and 2) with a minimum at least 20 m away from the embankments of the Loes River.

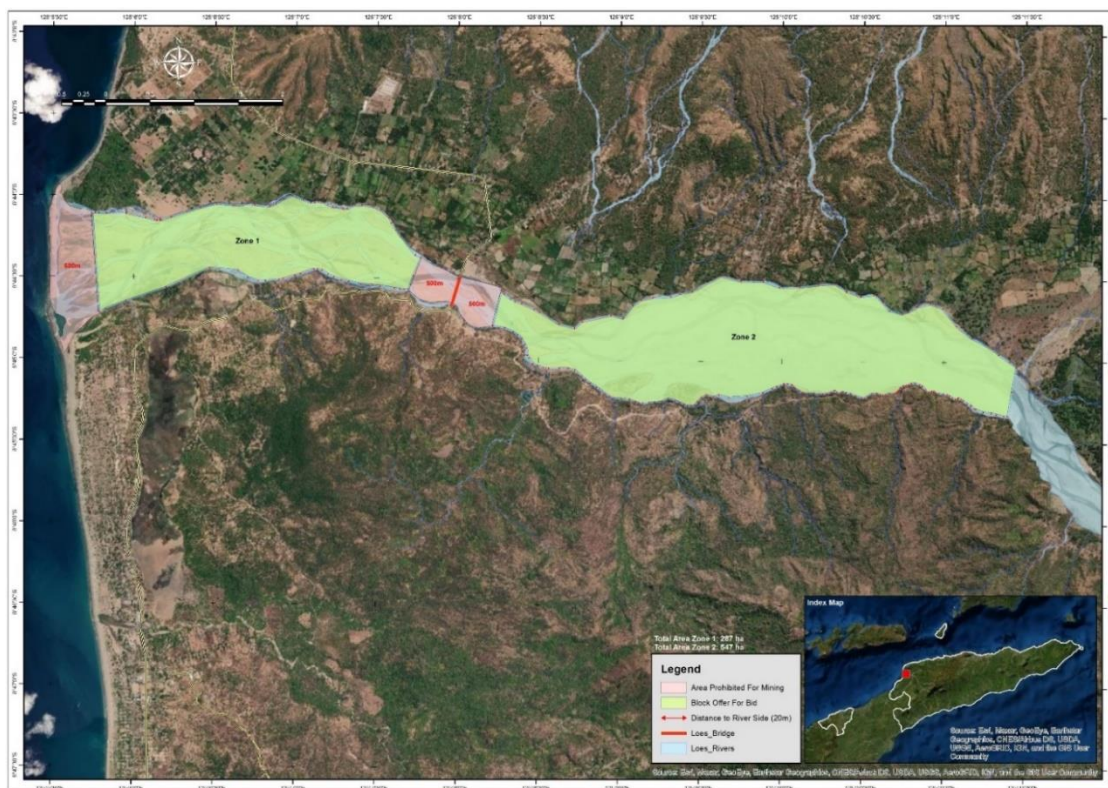


Figure 8: Section of the Loes River to be open for public tender for the gravel and sand exploration and subsequent production for export purpose. The total estimate combine area for the Loes River on offer is approximately 834 Ha or 8.34 km².

2. *Laclo River*

Laclo River is approximately 49 km east of the capital Dili, located within the Municipality of Manatuto. The river has a catchment in the south and flow northward toward the ocean. The Laclo River is the second largest river system in Timor-Leste after the Loes River. The drainage basin of the Laclo River covers an extensive area from Manatuto and Aileu Municipalities with a small part from the Manufahi Municipality (Figure 9A). The sediments that are deposited within the Laclo River are the result of the erosion from the parent rocks from the mentioned area within the drainage basin.

The Laclo River has both dendritic and parallel drainage network (Figure 9A). The dendritic network cover predominantly on the upper catchment, toward the middle reaches of the Laclo River some parallel network tributaries are observed. The dendritic network with irregular branching of tributaries in the upper reached of the Laclo River suggest that this network develops mostly on strata with no structural controls. The parallel network pattern in some part of the middle reaches of the Laclo River suggest strong structural control in the surrounding area.

The geology of the Laclo River drainage basin consists of the Aileu Complex, Maubisse Formation, Wailuli Formation, Lolotoi Complex, Aitutu Formation, Cribas Formation, and Ainaro Gravel (Figure 9B; based on geological map from Audley-Charles 1968). The rocks that form parts of these complexes and formations are shales, phyllites, slate, meta-eruptive rocks, low-grade regional metamorphose sedimentary and eruptive rocks, calcirudites, calcarenites, quartz-arenites, tuffs, marls, silts, arenite, conglomerates, micaceous shales and siltstone, quartz-arenite, and calcilutites nodules. The weathering and erosion of these rocks from the upper reaches will be transported and deposited on the braided channel river of the Laclo River. The mentioned rocks can further be broken into its individual minerals, according to study carried out by IPG (2014) the grain mineral analysis of the sand collected from the Laclo River contain quartz, lithic fragments, feldspar, magnetite, mica, zircon, ilmenite, and garnet. Additionally, the presence of the Aileu Complex and Maubisse Formation which also consist of eruptive rock and meta-eruptive rocks, within the drainage basin indicate there is potential for the occurrence of metallic minerals, either associated with the lithology or as part of the alluvial deposit. Hence, geochemical analysis of the sand will be able to determine the metallic composition of the sand transported and deposited on the river.

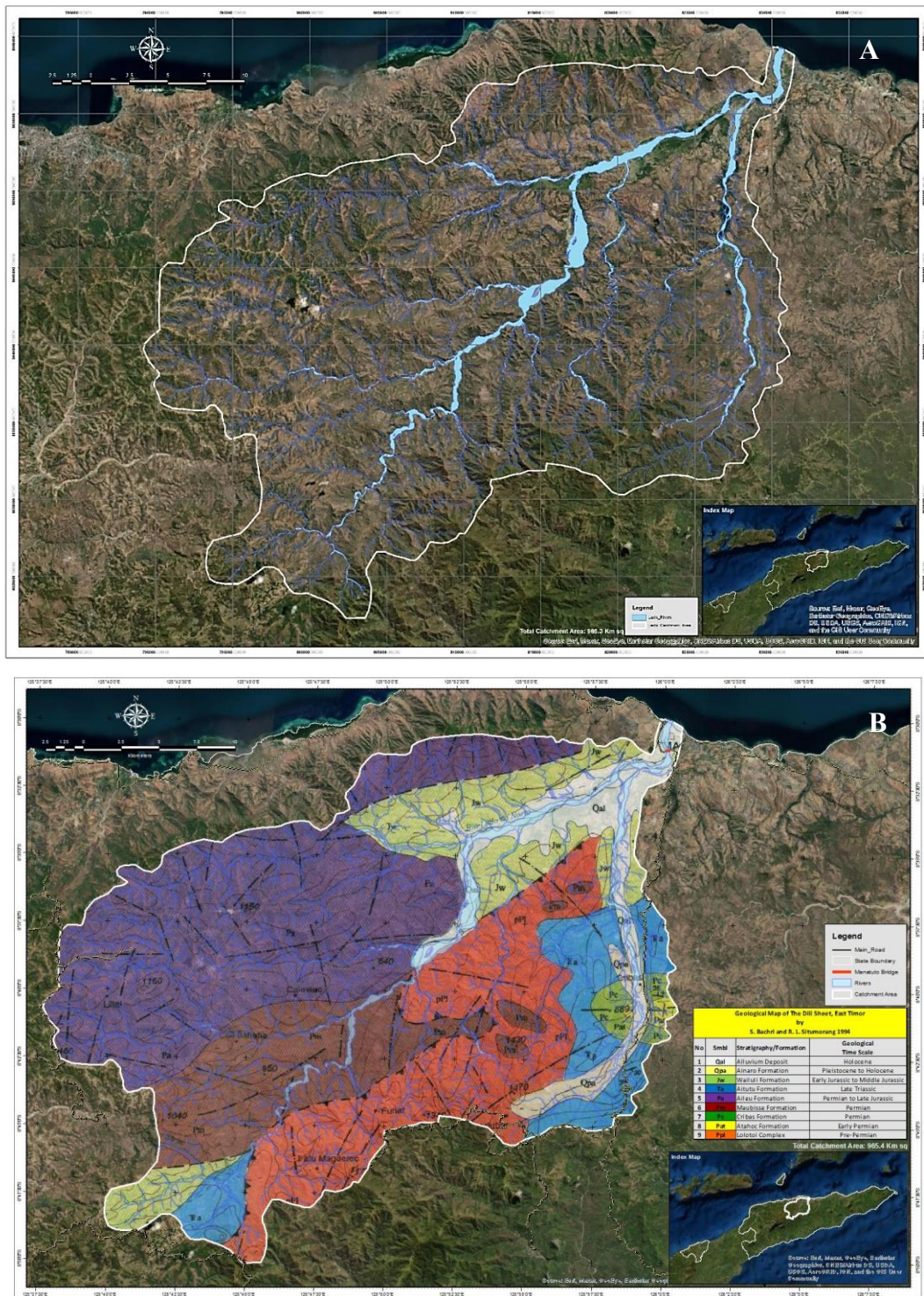


Figure 9: (A) Drainage basin / catchment of the Laclo River which cover areas from the Manatuto, Aileu and Manufahi Municipalities with a total catchment area of 965 km². (B) Drainage basin / catchment overlay on the geological map showing the various formations occur within the catchment.

The Laclo River has variable channel width ranging from approximately 200 m to over 1000 m in some section of the river. The river is perennial with variable water level during the rainy and

dry seasons. The sedimentation rate in the middle and lower reaches of the river is higher in rainy season due to flash flooding. The flash flooding typically caused the braided channel to become submerged due to increase of water level. Generally, the flood also carries abundant sediments that range from pebble, gravel, sand, silt to clay of the parent rocks from the upper catchment and deposited on the channel and floodplain of the Laclo River. The main channel of the Laclo River that located in the middle and lower reaches are the area permissible for gravel and sand extraction (Figure 10) with total estimated surface area of 114 Ha from the two zones separated by the bridge. To minimize the impact to the bridge abutment located on the Laclo River, distant of 500 m away from the bridge structure is permissible for sand and gravel extraction. Similarly, a distant of 500 m away from the shoreline is allocated as prohibited area for extraction. In addition, a minimum of 50 m to 100 m from both side of embankment of the river should be excluded from the mining zone due to the proximity to the residential area.

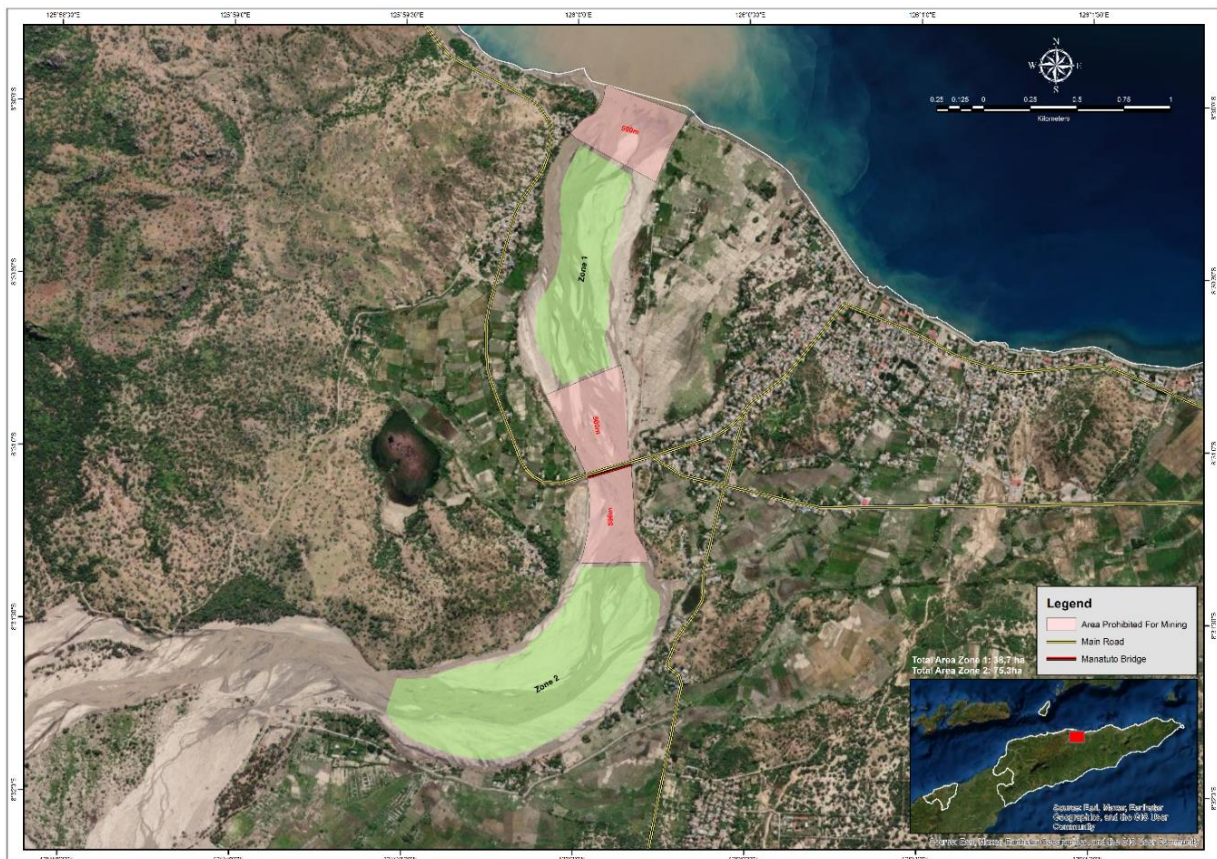


Figure 10: The section of the Laclo River to be opened for public tender for sand and gravel exploration and subsequent production for export purpose. The estimate combine area for the Laclo River on offer is approximately 114 Ha or 1.14 km².

3. *Laleia River*

The Laleia River is approximately 89 km to the east of the capital Dili, located within the Manatuto Municipality. This river is one of the major rivers in Timor-Leste, with its drainage basin or catchment is located mostly within the Manatuto Municipality, with some part located within the Baucau and Viqueque Municipalities (Figure 11A). This river also flows from south to the north with its outlet to the ocean. This river has primarily dendritic network pattern with irregular pattern which possible indicates no structural control of the strata in the area.

The sediments that are transported and deposited on the river is the result from the erosion and weathering of the parent rocks found within the drainage basin / catchment area and erosion of the riverbanks. The coarser fragments typically deposited on the upper reach of the river while finer-grain is transported to middle and lower reaches of the Laleia River. The geology of the catchment / drainage basin consists of the Bobonaro Complex, Aitutu Formation, Wailuli Formation, Baucau Limestone, Maubisse Formation, Viqueque Formation, Barique Formation, Cribas Formation, Suai Formation and alluvial which located on the flood plain of the river (Figure 11B).

The rocks from these formations are shales, calcilutites, marls, arenites, calcarenites, conglomerate, limestone, quartz-arenites, basal conglomerates, sandstones, siltstones, mudstones, marls, and chalks dacitic and basic tuffs, pumice and basic pillow lavas, micaceous shales, gravels, sands, and muds. The analysis of the sediment mineralogy from the sand from the Laleia River contain quartz, lithic fragments, feldspar, muscovite, magnetite, zircon, olivine, and garnet (IPG 2014). These minerals most likely to be broken from the parent rocks within the catchment of the Laleia River. In addition, the presence of the Barique and Maubisse Formations that contain igneous rocks may suggest there is potential of occurrence of metallic minerals either associated with the rocks or as detrital grain associated with the alluvial sand deposited on the river. Mineralogical and geochemical analysis is needed to determine the potential of the metallic mineral occurrence associated with the deposited sand.

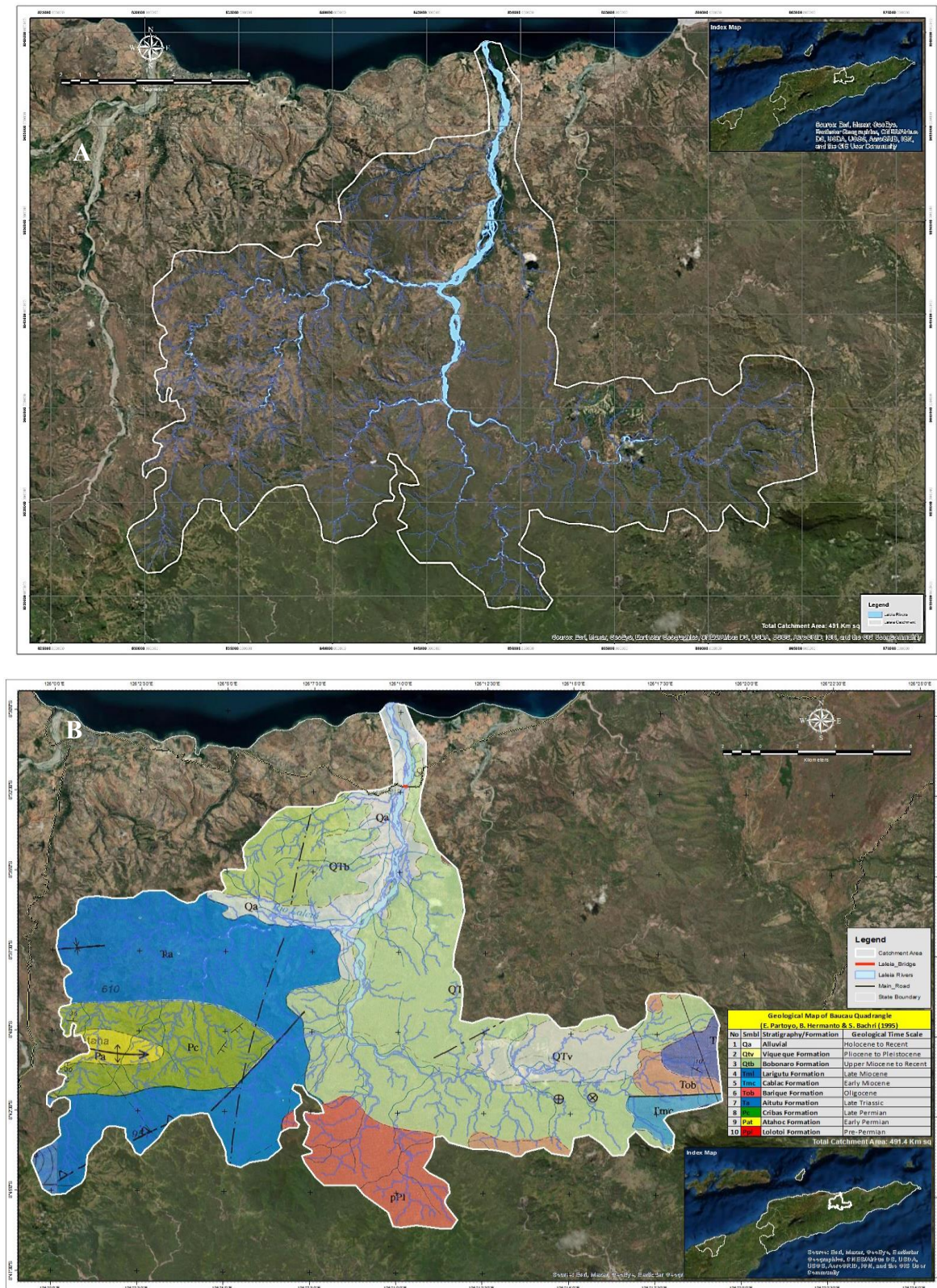


Figure 11: (A) The drainage basin / catchment of the Laleia River located within the Manatuto, Baucau and Viqueque Municipalities with total estimated catchment area of approximately 491 km². (B) The drainage basin overlay the geological map of the Laleia River catchment showing various formations occurred in the area.

The channel width of the Laleia varies, ranging from approximately 130 m to 650 m, with the wider section of the river is located in the lower reach or downstream. The Laleia River is a perennial braided river with fluctuated water level, typically it has higher water level during rainy season compared to dry season. The flash flood occurs when the rainfall in the upper reach of the catchment is high and normally the flood transport abundant sediment to the mid and lower reaches of the river. This section of the river (mid and lower reaches) is area proposed for sand and gravel extraction (Figure 12) with 500 m away from the bridge structure located within the river. The total estimated surface area of the section of the Laleia River permissible as sand and gravel exploration and subsequent extraction zone is approximately 174 Ha.

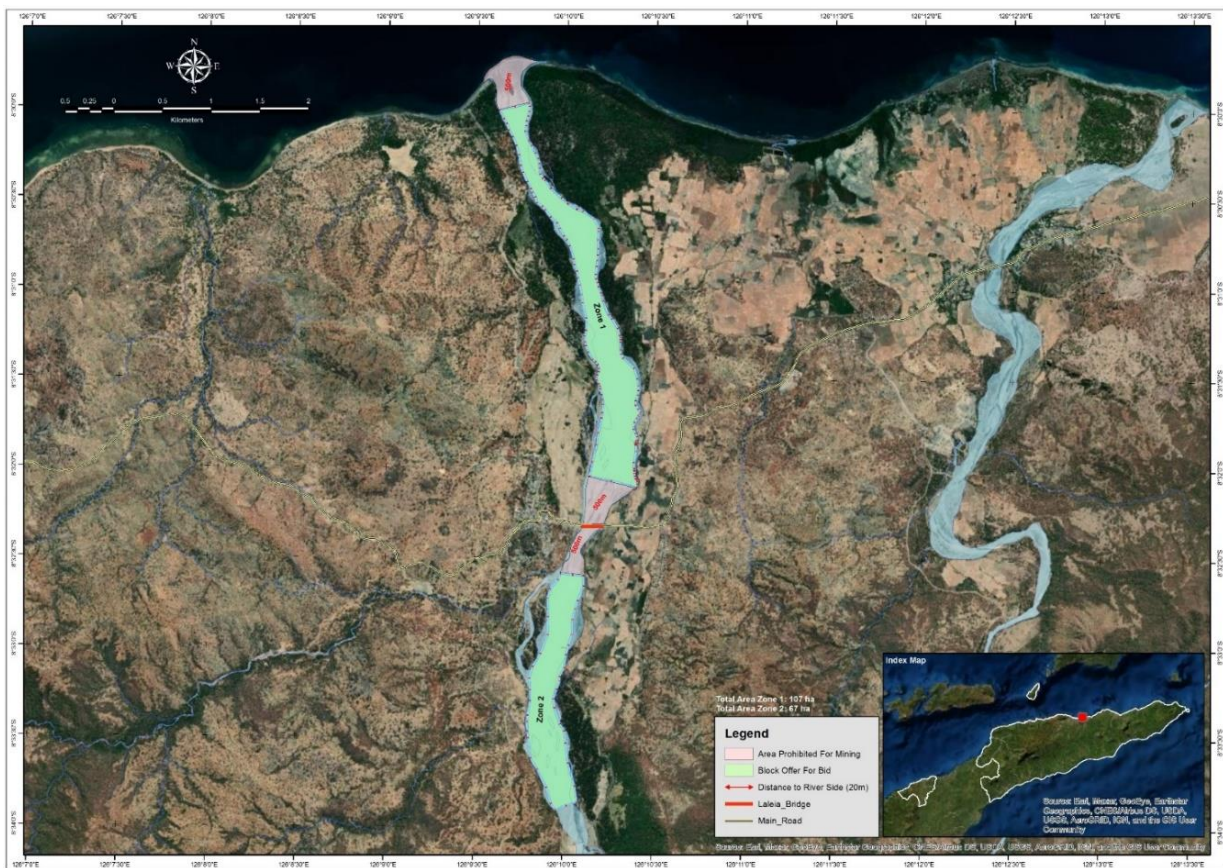


Figure 12: The section of the Laleia River to be opened for public tender for sand and gravel exploration. The total estimate combine area for the Laleia River on offer is approximately 174 Ha or 1.74 km².

5. Conclusions

Timor-Leste is an island country which is formed due to collision between the Banda Arc and the Australian Continental margin, resulted in various rocks from both the arc and continental margin to be present within the country. As an island country, Timor Leste has numerous small, medium to large/major rivers. The major rivers within Timor-Leste typically have the average width of channel of more than 100 m with a large catchment or drainage basin, such as Loes, Laclo and Laleia Rivers. The large catchment area typically contributes abundant sediments deposition to the rivers particularly to the middle and lower reaches where the gravel and sand extraction is carried out. Bridges present within the Loes, Laclo and Laleia Rivers which served as important crossing for the transportation of light and heavy vehicles between the municipalities in Timor-Leste hence a distance of 500 m away from the bridges is permissible as sand and gravel extraction zones to minimize impact from the extraction toward the bridges structure. A minimum of at least 20 m away from embankments of the river is applied to the selected river sections / zones for area to be opened for public tender for sand and gravel mining. The selected major rivers to be opened for public tender to conduct study or exploration work prior to carry out mining of sand and gravel are the Loes, Laclo and Laleia Rivers located in north coast of the country.

6. References

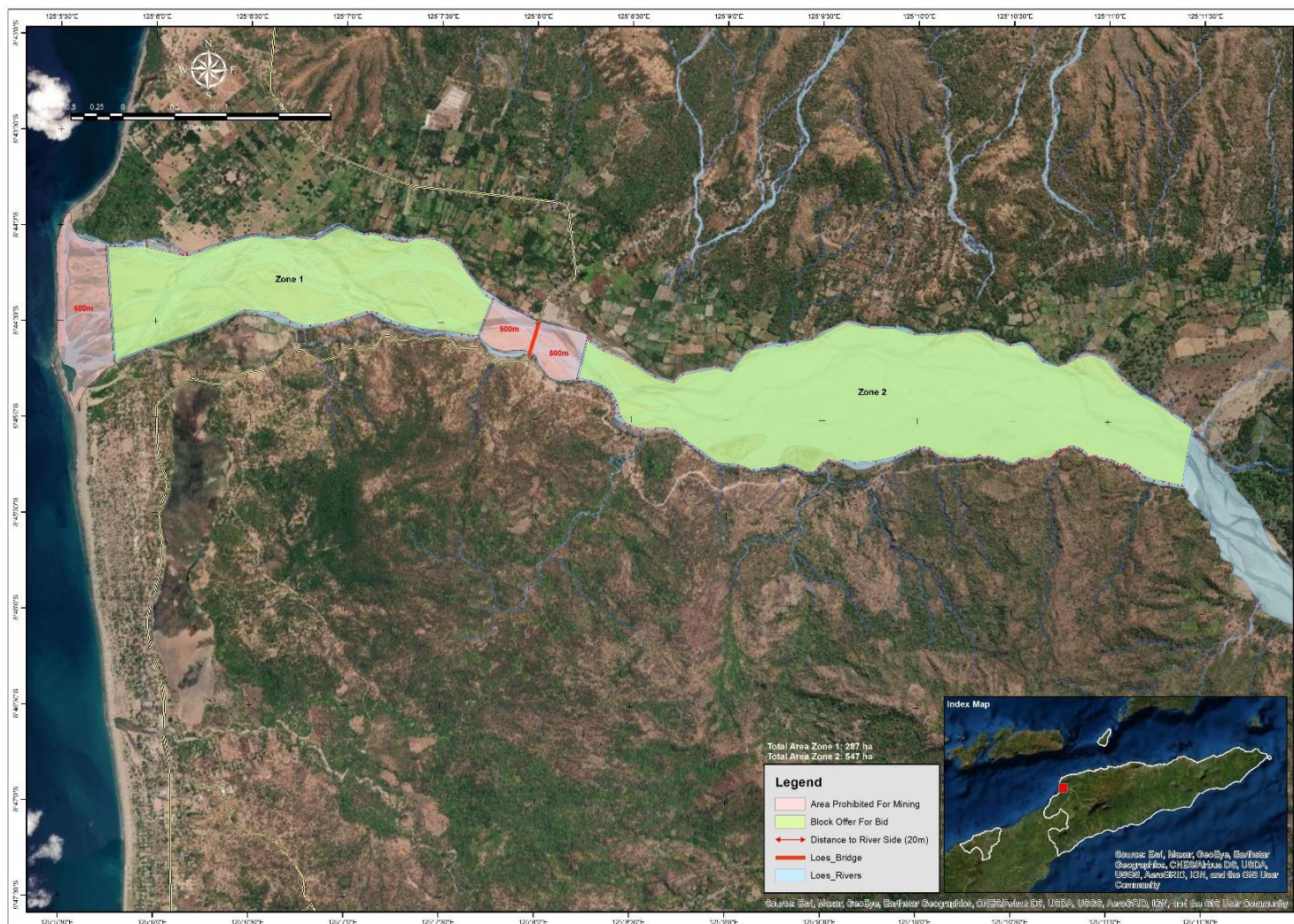
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ANNEX II

BID CONCESSION AREA ON OFFER

Concession Area IMCMP-2022-1 (Loes River)



Consist of two zones, Zone 1 (287 Ha) and 2 (547 Ha) separated by the bridge and its buffer zone of 500 m. The buffer area and the delta area are allowed for exploration however it is prohibited for extraction. The distance of the offer Concession Area from the riverbank is approximately 20 m. The coordinate of the points for the Zones within the Concession Area IMCMP-2022-1 are listed in the tables below.

List of Concession Area IMCMP-2022-1 Coordinates

ID	Zone	X	Y
1	Zone 1	730640.4336	9032666.217
2	Zone 1	730597.9495	9033308.147
3	Zone 1	730565.1072	9033777.961
4	Zone 1	730586.2239	9033779.019
5	Zone 1	730632.4732	9033776.007
6	Zone 1	730715.649	9033778.063
7	Zone 1	730935.1055	9033773.73
8	Zone 1	731157.4326	9033725.973
9	Zone 1	731258.6815	9033700.399
10	Zone 1	731286.1221	9033692.513
11	Zone 1	731291.77	9033692.509
12	Zone 1	731324.8375	9033692.51
13	Zone 1	731326.9939	9033692.511
14	Zone 1	731449.8037	9033732.808
15	Zone 1	731627.615	9033791.438
16	Zone 1	731784.1312	9033836.145
17	Zone 1	731965.2218	9033880.288
18	Zone 1	732158.9209	9033863.428
19	Zone 1	732394.9264	9033869.021
20	Zone 1	732561.3729	9033846.799
21	Zone 1	732640.7074	9033882.595
22	Zone 1	732724.2815	9033932.789
23	Zone 1	732821.838	9033969.989
24	Zone 1	732937.3642	9033926.807
25	Zone 1	733029.6627	9033889.874
26	Zone 1	733109.6851	9033899.605
27	Zone 1	733176.5091	9033889.382
28	Zone 1	733213.6062	9033868.454
29	Zone 1	733273.124	9033844.434
30	Zone 1	733310.572	9033840.381
31	Zone 1	733371.7411	9033829.163
32	Zone 1	733393.6436	9033825.373
33	Zone 1	733442.2225	9033821.434
34	Zone 1	733532.6266	9033863.753
35	Zone 1	733605.869	9033863.458
36	Zone 1	733736.4434	9033841.761

ID	Zone	X	Y
37	Zone 1	733811.1	9033810
38	Zone 1	733906	9033725
39	Zone 1	733932.6	9033665
40	Zone 1	733983.6	9033586
41	Zone 1	734039.3	9033514
42	Zone 1	734203.1	9033301
43	Zone 1	734261.2	9033274
44	Zone 1	734177.4	9033078
45	Zone 1	734124	9032929
46	Zone 1	734085	9032925
47	Zone 1	734037.5	9032934
48	Zone 1	733972.6	9032944
49	Zone 1	733809.3	9032970
50	Zone 1	733724.6	9032979
51	Zone 1	733596.9	9032990
52	Zone 1	733457	9033020
53	Zone 1	733375.3	9033040
54	Zone 1	733291.6	9033072
55	Zone 1	733225.7	9033102
56	Zone 1	733156.6	9033147
57	Zone 1	733101	9033158
58	Zone 1	733058.6	9033161
59	Zone 1	732906.4	9033106
60	Zone 1	732838.8	9033089
61	Zone 1	732712.1	9033050
62	Zone 1	732662.4	9033039
63	Zone 1	732512.1	9033028
64	Zone 1	732432.5	9033028
65	Zone 1	732320.3	9033065
66	Zone 1	732204.7	9033145
67	Zone 1	731879.7	9033175
68	Zone 1	731384.2	9032955
69	Zone 1	730931.9	9032800
70	Zone 1	730702.2	9032711
71	Zone 1	730640.4	9032666

ID	Zone	X	Y
1	Zone 2	735096.7866	9032514.246
2	Zone 2	735187.081	9032887.202
3	Zone 2	735204.0971	9032859.966
4	Zone 2	735284.2143	9032805.172
5	Zone 2	735337.2416	9032775.949
6	Zone 2	735409.1997	9032749.816
7	Zone 2	735549.7428	9032683.281
8	Zone 2	735610.413	9032648.468
9	Zone 2	735832.1381	9032518.69
10	Zone 2	736012.2581	9032466.851
11	Zone 2	736100.8527	9032546.791
12	Zone 2	736422.1472	9032612.415
13	Zone 2	736563.89	9032579.496
14	Zone 2	736678.8933	9032730.28
15	Zone 2	736767.1447	9032787.492
16	Zone 2	736896.6012	9032814.392
17	Zone 2	737100.6498	9032825.902
18	Zone 2	737203.4061	9032854.379
19	Zone 2	737344.5355	9032882.706
20	Zone 2	737671.422	9033055.688
21	Zone 2	737890.7578	9032999.638
22	Zone 2	738146.0152	9032994.622
23	Zone 2	738327.5538	9032928.483
24	Zone 2	738555.9244	9032930.816
25	Zone 2	738775.8607	9032954.635
26	Zone 2	738952.8247	9032966.901
27	Zone 2	739083.7544	9032884.486
28	Zone 2	739250.3076	9032825.556
29	Zone 2	739394.5708	9032844.048
30	Zone 2	739488.5268	9032765.041
31	Zone 2	739564.7979	9032666.63
32	Zone 2	739717.0779	9032629.191
33	Zone 2	739791.4439	9032653.036

ID	Zone	X	Y
34	Zone 2	739891.9	9032709
35	Zone 2	740035.6	9032741
36	Zone 2	740171.1	9032689
37	Zone 2	740325.6	9032489
38	Zone 2	740502.7	9032352
39	Zone 2	740735.7	9032230
40	Zone 2	740803.9	9032168
41	Zone 2	740924.9	9032084
42	Zone 2	740998.9	9032034
43	Zone 2	740949.9	9031757
44	Zone 2	740901.5	9031478
45	Zone 2	740867.2	9031490
46	Zone 2	740780.7	9031509
47	Zone 2	740725.2	9031525
48	Zone 2	740635.7	9031535
49	Zone 2	740550.7	9031567
50	Zone 2	740533.7	9031573
51	Zone 2	740501.3	9031609
52	Zone 2	740459.5	9031631
53	Zone 2	740409.6	9031664
54	Zone 2	740384.8	9031680
55	Zone 2	740348.8	9031694
56	Zone 2	740336.3	9031683
57	Zone 2	740320.5	9031683
58	Zone 2	740288.3	9031698
59	Zone 2	740253.8	9031717
60	Zone 2	740229.2	9031729
61	Zone 2	740184	9031741
62	Zone 2	740128.3	9031750
63	Zone 2	740103.7	9031753
64	Zone 2	740078	9031774
65	Zone 2	740049.8	9031774
66	Zone 2	740036.5	9031760

ID	Zone	X	Y
67	Zone 2	740017.6	9031761.245
68	Zone 2	739997.8	9031768.441
69	Zone 2	739985.3	9031789.209
70	Zone 2	739950.8	9031827.145
71	Zone 2	739918.8	9031844.334
72	Zone 2	739865.8	9031862.81
73	Zone 2	739814.6	9031859.345
74	Zone 2	739787.1	9031845.483
75	Zone 2	739781.3	9031837.53
76	Zone 2	739760.8	9031836.264
77	Zone 2	739729.6	9031834.983
78	Zone 2	739694.8	9031808.027
79	Zone 2	739679.4	9031787.335
80	Zone 2	739667.5	9031777.013
81	Zone 2	739659	9031766.929
82	Zone 2	739645.8	9031756.822
83	Zone 2	739626.4	9031749.475
84	Zone 2	739569.9	9031749.869
85	Zone 2	739525.8	9031733.631
86	Zone 2	739495.3	9031726.335
87	Zone 2	739472.4	9031730.88
88	Zone 2	739432.9	9031748.365
89	Zone 2	739368.5	9031745.295
90	Zone 2	739312.2	9031713.631
91	Zone 2	739291.6	9031694.516
92	Zone 2	739257.4	9031699.831
93	Zone 2	739194.8	9031721.23
94	Zone 2	739137.8	9031746.971
95	Zone 2	739083.1	9031755.569
96	Zone 2	739038.6	9031769.53
97	Zone 2	739024.9	9031755.374
98	Zone 2	738982.8	9031760.975
99	Zone 2	738952	9031783.852

ID	Zone	X	Y
100	Zone 2	738905.5036	9031758.661
101	Zone 2	738862.6507	9031751.511
102	Zone 2	738814.3304	9031743.693
103	Zone 2	738779.1476	9031738.634
104	Zone 2	738717.0497	9031747.148
105	Zone 2	738658.2361	9031747.471
106	Zone 2	738609.904	9031753.171
107	Zone 2	738588.7876	9031754.755
108	Zone 2	738553.537	9031778.292
109	Zone 2	738508.2125	9031805.459
110	Zone 2	738498.0736	9031813.698
111	Zone 2	738475.1601	9031844.162
112	Zone 2	738421.0654	9031854.53
113	Zone 2	738379.7572	9031859.896
114	Zone 2	738340.5804	9031838.018
115	Zone 2	738295.4186	9031827.673
116	Zone 2	738238.8366	9031804.033
117	Zone 2	738137.2523	9031754.831
118	Zone 2	737957.879	9031718.447
119	Zone 2	737755.0829	9031705.306
120	Zone 2	737641.2527	9031731.783
121	Zone 2	737579.0388	9031710.126
122	Zone 2	737501.7746	9031732.113
123	Zone 2	737441.6071	9031698.907
124	Zone 2	737398.5535	9031656.445
125	Zone 2	737367.3056	9031619.009
126	Zone 2	737333.4034	9031608.022
127	Zone 2	737288.0297	9031608.362
128	Zone 2	737252.9692	9031623.319
129	Zone 2	737200.794	9031648.475
130	Zone 2	737148.4716	9031668.179
131	Zone 2	737070.8278	9031691.319
132	Zone 2	736991.795	9031655.988

ID	Zone	X	Y
133	Zone 2	736913.1	9031651
134	Zone 2	736850.8	9031646
135	Zone 2	736781.9	9031644
136	Zone 2	736738.2	9031644
137	Zone 2	736702.1	9031657
138	Zone 2	736631.7	9031680
139	Zone 2	736537.2	9031692
140	Zone 2	736455.3	9031694
141	Zone 2	736413.3	9031715
142	Zone 2	736365.6	9031746
143	Zone 2	736267.2	9031824
144	Zone 2	736191.2	9031866
145	Zone 2	736141	9031909
146	Zone 2	736095.4	9031947
147	Zone 2	736018.5	9032015
148	Zone 2	735939.9	9032036
149	Zone 2	735836	9032036
150	Zone 2	735718.8	9032034
151	Zone 2	735658.8	9032044
152	Zone 2	735593	9032067
153	Zone 2	735547.4	9032085
154	Zone 2	735504.2	9032149
155	Zone 2	735485.7	9032180
156	Zone 2	735476.1	9032258
157	Zone 2	735457.7	9032303
158	Zone 2	735419.7	9032370
159	Zone 2	735370	9032412
160	Zone 2	735320.6	9032447
161	Zone 2	735219.8	9032493
162	Zone 2	735096.8	9032514

Concession Area IMCMP-2022-2 (Laclo River)



Consist of two zones, Zone 1 (total area of 38.7 Ha) and Zone 2 (total area of 75.3 Ha) separated by the bridge and its buffer zone of 500 m. The buffer area and the delta area (colour as red) are allowed for exploration however it is prohibited for extraction. The distance of the Concession Area offers for bid to the riverbank is approximately 50m to 100m. The coordinate for the points for the Concession Area IMCMP-2022-2 are listed in the table below.

List Concession Area IMCMP-2022-2 Coordinates

Point	Zone	X	Y
1	Zone 1	169609.9583	9057643.126
2	Zone 1	169589.7195	9057677.811
3	Zone 1	169527.921	9057768.453
4	Zone 1	169486.0318	9057831.462
5	Zone 1	169465.6297	9057862.151
6	Zone 1	169463.2069	9057924.669
7	Zone 1	169461.5568	9057967.246
8	Zone 1	169468.754	9058064.337
9	Zone 1	169508.9097	9058129.24
10	Zone 1	169565.0822	9058227.175
11	Zone 1	169587.7399	9058337.032
12	Zone 1	169595.1957	9058447.149
13	Zone 1	169578.8207	9058569.792
14	Zone 1	169587.2988	9058704.81
15	Zone 1	169622.7321	9058797.763
16	Zone 1	169656.9644	9058870.091
17	Zone 1	169686.3121	9058921.66
18	Zone 1	169968.4761	9058761.857
19	Zone 1	169955.6176	9058725.687
20	Zone 1	169920.3716	9058614.871
21	Zone 1	169908.1581	9058475.624
22	Zone 1	169865.8779	9058349.33
23	Zone 1	169860.8405	9058237.565
24	Zone 1	169846.9273	9058131.95
25	Zone 1	169851.0515	9058004.893
26	Zone 1	169831.2383	9057894.806
27	Zone 1	169863.6712	9057773.143
28	Zone 1	169865.5568	9057749.154
29	Zone 1	169609.9583	9057643.126

Point	Zone	X	Y
1	Zone 2	168691.5	9055879
2	Zone 2	168748.2	9056058
3	Zone 2	168826.2	9056057
4	Zone 2	168913.4	9056062
5	Zone 2	169022	9056104
6	Zone 2	169164.4	9056138
7	Zone 2	169295.3	9056157
8	Zone 2	169419.3	9056211
9	Zone 2	169472.6	9056277
10	Zone 2	169531.3	9056322
11	Zone 2	169603.4	9056402
12	Zone 2	169661.2	9056503
13	Zone 2	169708	9056606
14	Zone 2	169720.2	9056666
15	Zone 2	170046.6	9056679
16	Zone 2	170060.8	9056676
17	Zone 2	170062.9	9056657
18	Zone 2	170064.6	9056642
19	Zone 2	170067.3	9056619
20	Zone 2	170068.9	9056604
21	Zone 2	170092.4	9056571
22	Zone 2	170114.4	9056553
23	Zone 2	170134.7	9056535
24	Zone 2	170144.9	9056527
25	Zone 2	170151.2	9056481
26	Zone 2	170143.4	9056405
27	Zone 2	170115.1	9056315
28	Zone 2	170075.4	9056236
29	Zone 2	170021.3	9056132

Point	Zone	X	Y
30	Zone 2	169964.8	9056057
31	Zone 2	169850.5	9055938
32	Zone 2	169704.9	9055818
33	Zone 2	169561.8	9055729
34	Zone 2	169386.8	9055656
35	Zone 2	169283.8	9055636
36	Zone 2	169230.5	9055625
37	Zone 2	169051.3	9055657
38	Zone 2	168920.7	9055701
39	Zone 2	168841.2	9055731
40	Zone 2	168761.4	9055790
41	Zone 2	168694.3	9055877
42	Zone 2	168691.5	9055879

Concession Area IMCMP-2022-3 (Laleia River)



Consist of two zones, Zone 1 (total area of 107 Ha) and 2 (total area of 67 Ha), with a total area of 174 Ha separated by the bridge and its buffer zone of 500 m. The buffer area and the delta area are allowed for exploration however it is prohibited for extraction. The distance of the Concession Area on offer from the riverbanks are approximately 20 m. The coordinates for Concession Area IMCMP-2022-3 are as listed in the tables below.

List of Concession Area IMCMP-2022-3 Coordinate

ID	Zone	X	Y
1	Zone 1	848922.1906	9055234.842
2	Zone 1	848955.203	9055373.439
3	Zone 1	848999.1126	9055551.969
4	Zone 1	849016.1087	9055672.716
5	Zone 1	849047.4998	9055827.461
6	Zone 1	849057.091	9055884.056
7	Zone 1	849061.8973	9055966.925
8	Zone 1	849059.9393	9056018.211
9	Zone 1	849049.4521	9056069.222
10	Zone 1	849035.2015	9056131.963
11	Zone 1	849027.3771	9056157.084
12	Zone 1	849021.9377	9056181.057
13	Zone 1	848998.2643	9056221.488
14	Zone 1	848992.3649	9056246.274
15	Zone 1	849002.6867	9056267.527
16	Zone 1	849018.1626	9056301.105
17	Zone 1	849020.7542	9056339.181
18	Zone 1	849007.5701	9056379.34
19	Zone 1	848984.6923	9056411.075
20	Zone 1	848953.052	9056436.194
21	Zone 1	848912.0631	9056509.701
22	Zone 1	848888.0857	9056574.983
23	Zone 1	848880.0845	9056612.485
24	Zone 1	848875.2097	9056669.894
25	Zone 1	848894.0856	9056727.548
26	Zone 1	848890.6088	9056855.178
27	Zone 1	848853.4016	9057015.741
28	Zone 1	848841.7976	9057097.868
29	Zone 1	848825.8086	9057194.863
30	Zone 1	848807.2537	9057268.875
31	Zone 1	848796.7557	9057341.09
32	Zone 1	848772.5315	9057409.086
33	Zone 1	848762.2254	9057464.322

ID	Zone	X	Y
34	Zone 1	848720.2	9057603
35	Zone 1	848691.8	9057666
36	Zone 1	848660.3	9057706
37	Zone 1	848615.8	9057783
38	Zone 1	848588.5	9057839
39	Zone 1	848524.7	9057901
40	Zone 1	848467.7	9057973
41	Zone 1	848438	9058010
42	Zone 1	848384.1	9058047
43	Zone 1	848370.6	9058104
44	Zone 1	848340.2	9058154
45	Zone 1	848322	9058190
46	Zone 1	848284.9	9058263
47	Zone 1	848240	9058358
48	Zone 1	848220.3	9058426
49	Zone 1	848202.8	9058535
50	Zone 1	848174	9058635
51	Zone 1	848135.9	9058726
52	Zone 1	848097.5	9058791
53	Zone 1	848077	9058860
54	Zone 1	848047.9	9058909
55	Zone 1	848000.9	9058992
56	Zone 1	848152.3	9059017
57	Zone 1	848289.8	9059055
58	Zone 1	848291.4	9059030
59	Zone 1	848290.3	9058980
60	Zone 1	848278	9058935
61	Zone 1	848261.6	9058886
62	Zone 1	848256.8	9058835
63	Zone 1	848247.4	9058771
64	Zone 1	848283.7	9058674
65	Zone 1	848314.1	9058624
66	Zone 1	848352.9	9058548

ID	Zone	X	Y
67	Zone 1	848380	9058492
68	Zone 1	848393.8	9058444
69	Zone 1	848393.8	9058392
70	Zone 1	848401.3	9058331
71	Zone 1	848429.2	9058284
72	Zone 1	848453.2	9058266
73	Zone 1	848510.9	9058182
74	Zone 1	848621.2	9058083
75	Zone 1	848683.8	9058026
76	Zone 1	848692.2	9058019
77	Zone 1	848777.9	9057966
78	Zone 1	848783.6	9057963
79	Zone 1	848843.7	9057943
80	Zone 1	848958.3	9057872
81	Zone 1	849001.6	9057777
82	Zone 1	849000.5	9057746
83	Zone 1	848994	9057656
84	Zone 1	848994.9	9057564
85	Zone 1	848991.2	9057502
86	Zone 1	848986.5	9057446
87	Zone 1	848980.1	9057387
88	Zone 1	848973.5	9057304
89	Zone 1	848974.9	9057256
90	Zone 1	848989.5	9057218
91	Zone 1	849000.8	9057173
92	Zone 1	849026.7	9057111
93	Zone 1	849035.7	9057086
94	Zone 1	849044.4	9057027
95	Zone 1	849102.6	9056882
96	Zone 1	849140.5	9056841
97	Zone 1	849197.1	9056745
98	Zone 1	849218.6	9056673
99	Zone 1	849224.8	9056655

ID	Zone	X	Y
100	Zone 1	849225.1797	9056632.387
101	Zone 1	849225.1279	9056606.132
102	Zone 1	849223.3384	9056528.303
103	Zone 1	849234.2171	9056478.201
104	Zone 1	849255.5686	9056436.626
105	Zone 1	849365.64	9056334.333
106	Zone 1	849395.9527	9056230.253
107	Zone 1	849407.8593	9056157.13
108	Zone 1	849405.9319	9056107.783
109	Zone 1	849402.4504	9056065.889
110	Zone 1	849380.4021	9056008.765
111	Zone 1	849379.5646	9055957.894
112	Zone 1	849410.1974	9055910.41
113	Zone 1	849431.6189	9055885.763
114	Zone 1	849426.6155	9055873.774
115	Zone 1	849408.7444	9055854.426
116	Zone 1	849391.7606	9055828.034
117	Zone 1	849368.3665	9055787.191
118	Zone 1	849358.5471	9055708.873
119	Zone 1	849380.7993	9055666.487
120	Zone 1	849394.0935	9055632.508
121	Zone 1	849398.5631	9055603.459
122	Zone 1	849384.9184	9055594.42
123	Zone 1	849377.467	9055573.805
124	Zone 1	849377.3173	9055556.069
125	Zone 1	849382.0857	9055546.2
126	Zone 1	849384.5092	9055484.19
127	Zone 1	849362.2927	9055369.484
128	Zone 1	849363.0651	9055308.015
129	Zone 1	849364.7967	9055290.426
130	Zone 1	849365.8509	9055280.918
131	Zone 1	849365.9305	9055258.029
132	Zone 1	849372.5745	9055228.503

ID	Zone	X	Y
133	Zone 1	849381.9	9055198
134	Zone 1	849393.3	9055191
135	Zone 1	849396.2	9055181
136	Zone 1	849397.6	9055171
137	Zone 1	849396.3	9055149
138	Zone 1	849390.6	9055122
139	Zone 1	849139.5	9055189
140	Zone 1	848922.2	9055235

ID	Zone	X	Y
1	Zone 2	848558.4389	9051808.392
2	Zone 2	848526.0098	9051872.24
3	Zone 2	848477.6699	9052035.695
4	Zone 2	848380.1481	9052223.393
5	Zone 2	848315.8701	9052339.317
6	Zone 2	848290.1588	9052545.116
7	Zone 2	848282.7801	9052611.489
8	Zone 2	848282.8613	9052709.664
9	Zone 2	848286.3619	9052773.606
10	Zone 2	848312.318	9052921.942
11	Zone 2	848312.5114	9053039.723
12	Zone 2	848304.9536	9053152.1
13	Zone 2	848336.6086	9053272.127
14	Zone 2	848417.9934	9053405.229
15	Zone 2	848493.4009	9053601.362
16	Zone 2	848497.8254	9053788.253
17	Zone 2	848490.234	9053978.338
18	Zone 2	848517.0729	9054066.851
19	Zone 2	848598.4888	9054163.019
20	Zone 2	848619.5823	9054221.923
21	Zone 2	848741.2159	9054205.432
22	Zone 2	848845.6281	9054197.878

ID	Zone	X	Y
23	Zone 2	848845.2	9054102
24	Zone 2	848785	9053954
25	Zone 2	848758.7	9053867
26	Zone 2	848728.5	9053757
27	Zone 2	848724.8	9053605
28	Zone 2	848688.2	9053497
29	Zone 2	848665.6	9053398
30	Zone 2	848644	9053264
31	Zone 2	848595.9	9053174
32	Zone 2	848598.8	9053128
33	Zone 2	848568.6	9053045
34	Zone 2	848530.7	9052943
35	Zone 2	848543.2	9052845
36	Zone 2	848599.2	9052677
37	Zone 2	848644.3	9052607
38	Zone 2	848658.1	9052485
39	Zone 2	848681.8	9052279
40	Zone 2	848751	9052042
41	Zone 2	848774.6	9051884
42	Zone 2	848669.6	9051853
43	Zone 2	848558.4	9051808

ANNEX III

TIMELINE

TIMELINE

NO	ACTIVITY	NOTE	TIMELINE																											
			NOV 2022				DEC 2022				JAN 2023				FEB 2023				MAR 2023				APR 2023							
1	ANNOUNCEMENT OF THE BIDDING	BIDDING ANNOUNCEMENT 22 DECEMBER 2022																												
2	PRE - QUALIFICATION	PRE QUALIFICATION COMMENCES ON 22 DECEMBER 2022 UNTIL 22 FEBRUARY 2023																												
3	APPLICATION TO BID OPEN	APPLICATION / SUBMISSION TO BID OPENS FROM 3 JANUARY 2023 UNTIL 15 MARCH 2023																												
4	BID SUBMISSION CLOSE	APPLICATION / SUBMISSION TO BID CLOSES ON 15 MARCH 2023 AT 16:00 (GMT+9)																												
5	BID EVALUATION	BID EVALUATION COMMENCES IMMEDIATELY AFTER BID SUBMISSION CLOSE DATE FOR A PERIOD OF 15 DAYS																												
6	BID RESULT ANNOUNCEMENT	BID RESULT IS TO BE ANNOUNCED ON 15 APRIL 2023																												
7	DEADLINE FOR ACCEPTANCE	DEADLINE FOR ACCEPTANCE OF OFFER IS ON 20 APRIL 2023																												
8	ISSUANCE OF MINERAL RIGHTS	MINERAL RIGHTS IS ISSUED NO LATER THAN 28 APRIL 2023																												

Note: Updated timeline.

ANNEX IV

MODEL MINERAL PERMIT


MODEL MINERAL PERMIT



Democratic Republic of Timor-Leste

Ministry of Petroleum and Minerals

Mineral Permit no

Granted to 

Share holder structure of the Applicant¹:

Holder	Equity - %
[...]	[...]
[...]	[...]
[...]	[...]

To carry out mineral activities and export the minerals identified below, which qualify as Construction Materials, pursuant to the Mining Code and the ancillary legislation:

- Sands

The concession area is located in the [...] Municipality, [...] administrative post, [...] suco, [...] village.

Issued on: [...]

Expires on: [...]

The Minister of Petroleum and Minerals

¹ Pursuant to Article 41.3 of the Mining Code



CONCESSION AREA
GEOGRAPHIC COORDINATES

VERTICE	LATITUDE	LONGITUDE



TOPOGRAPHIC MAP OF THE CONCESSION AREA

[insert]



MINE CLOSURE PLAN

[insert]



MANAGEMENT AND OPERATIONS STRUCTURE

Workforce Strategy

1. Job positions created by the mineral activities

	Year 1		Year 2		Year 3		Year 4		Year [...]	
	Nat.	Expat	Nat.	Expat	Nac.	Expat.	Nac.	Expat.	Nac.	Expat.
Temporary Employment	[...]	[...]	[...]	[...]	[...]	[...]	[...]	[...]	[...]	[...]
Permanent Employment	[...]	[...]	[...]	[...]	[...]	[...]	[...]	[...]	[...]	[...]
Total	[...]	[...]	[...]	[...]	[...]	[...]	[...]	[...]	[...]	[...]

Nat. – Nationals

Expat. – Expatriates

2. Substitution plan of expatriates

[insert]



MANAGEMENT AND OPERATIONS STRUCTURE

Policies for the Procurement of Goods and Services from Timor-Leste

1. Goods and Services required for the mineral activities

[insert]

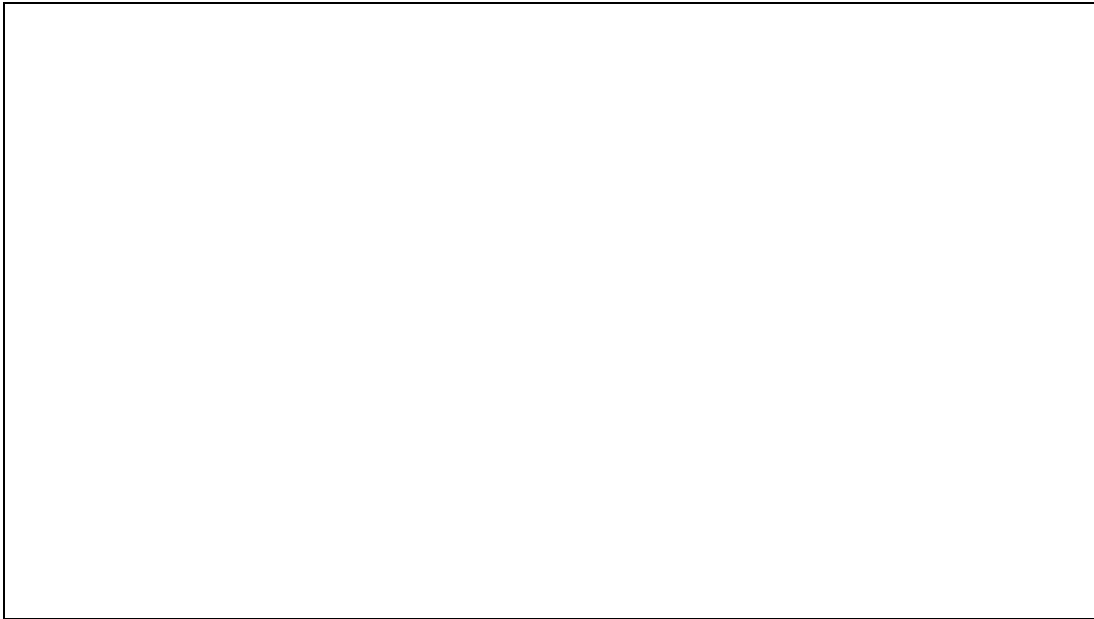
2. Policies for the Procurement of goods and services

[insert]

The holder of the Mineral Permit commits to allocate a minimum 20% (twenty percent) of its annual expenditure for the procurement of goods and services from Timor-Leste suppliers, as well as, after meeting the minimum expenditure amount, to give preference to Timor-Leste suppliers in the procurement of any additional goods and services.



ADDITIONAL RECORDS



ANNEX V

PRE-QUALIFICATION GUIDELINES



PRE-QUALIFICATION GUIDELINES

FOR THE AWARD OF MINERAL RIGHTS FOR LARGE SCALE

EXPLORATION AND MINING OF SANDS FOR EXPORT

PURPOSES

ANPM 2022

Introduction

These Pre-Qualification Guidelines is issued to facilitate the conduct of public tender proceedings required under Article 10 of Law 12/2021, of 30 June 2021, which approved the Mining Code and establish the eligibility criteria for prospective bidder(s) wishing to qualify for the award of Mineral Rights for Large Scale Exploration and Mining of sands for Export Purposes.

Criteria

Prospective bidder(s) wishing to participate in the Public Tender must previously pre-qualify with ANPM.

Prospective bidder(s) must submit proper and certifiable documental evidence of their technical and financial capacity to carry out Mining Activities, their legal standing, and their experience in implementing and complying with standard health, safety, environment and local communities engagement and local content plans, all to the satisfaction of ANPM in accordance with its sole discretion, based on the following criteria:

Financial Qualification

The purpose of establishing financial qualification criteria is to allow ANPM to assess the prospective bidder(s) financial strength and capacity to finance the Mining Activities and any liabilities that may be incurred in relation thereto.

Prospective bidder(s) are required to have a fully paid-up share capital equivalent to or in excess of US\$ 25,000.00 (twenty-five thousand United States Dollars).

The evaluation of the prospective bidder(s)' financial capability shall be based on the following documental evidence:

- (a) The last two financial year statements verified by a chartered accountant or certified public accountant (duly signed by Director of the company and the chartered accountant or certified public accountant).
- (b) A description of long-term debt, including major lease obligations, and identification of prospective bidder(s) major assets which have been pledged or otherwise encumbrance upon them under financial security arrangements;

The prospective bidder(s) shall further provide a Statement Letter outlining the following:

- (a) Details of medium-term plans which may materially alter the financial status of the prospective bidder(s);

- (b) Specific and detailed information on how it intends to finance the work commitments and letters of support associated with the projected financing, detailing the steps and timing required to secure the necessary funds (where applicable);
- (c) Any additional information evidencing the financial capacity of the prospective bidder(s);

Legal Qualification

In order to secure legal qualification all prospective bidder(s) **must be incorporated and registered in Timor-Leste as a limited liability company and demonstrate that Timorese national individuals hold a Controlling Interest in the company** (50% or more of the votes at the General Assembly or equivalent body or the power to appoint the majority of the board members or any other form of management or control).

Prospective bidder(s) are also required to demonstrate a track-record of compliance with principles of good corporate citizenship.

In order to provide the evidences of compliance with the legal qualification requirements for this pre-qualification, the following documents or equivalent must be submitted by the prospective bidder(s) to ANPM:

- (a) A complete set of legal certificates attesting the legal standing of the prospective bidder(s), which should include express reference to the prospective bidder(s) registered address, primary business activity, identification of its duly authorized representatives, full details of ultimate ownership (SERVE Registration and Company Statute) and, if applicable, track-record of any mergers, demergers and similar transactions in past three (3) years;
- (b) Details of any projects and ventures in which the prospective bidder(s) may be engaged, detailing the corresponding commitments in the short, medium and long term, including work programs and/or risks, namely those that may have an impact on the prospective bidder(s)'s ability to exercise the Mineral Rights that may be awarded to it following the Public Tender procedures;
- (c) Organizational chart and number of employees, with a breakdown by category and nationality; and
- (d) A Statement Letter issued by the prospective bidder(s) and signed by a company official with legal authority for that effect attesting that no pending litigation, legal proceedings or other similar circumstances that may have an impact on the prospective bidder(s)'s ability

to exercise the Mineral Rights that may be awarded to it following the Public Tender procedures or the bankruptcy of the company;

Each member of a consortium formed to bid for the Public Tender must comply with all the legal qualification requirements, where applicable. ANPM is allowed to pre-qualify entities that do not meet all the financial and technical criteria of pre-qualification, expressly excluding the legal criteria, provided such pre-qualification is conditional to the obligation of the applicant to form a consortium with one or more pre-qualified entities that meet the criteria that the relevant applicant fails to meet so as for such consortium to submit a joint bid.

Technical Qualification

The qualification of the prospective bidder(s) from a technical standpoint shall be based on its/their demonstrated experience in Mining Activities. The criteria and documentation to be supplied to demonstrate the prospective bidder(s) technical capabilities are as follows:

(a) Experience in Mining Activities relevant to quarry operations

Prospective bidder(s) must provide evidence of its/their relevant experience and expertise in mining activities, in particular in the exploration and mining of sands. In order to evidence its/their technical capabilities, prospective bidder(s) are required to submit a technical summary showing its/their technical operating capability, including, without limitation, the following information and data:

- (i) Prospective bidder(s) exploration and production assets in the last three to five (3 to 5) years, including a detailed summary of ongoing activities;
- (ii) Lists of technical personnel and their technical competencies in the field of sand / [Construction Materials] exploration and mining;
- (iii) The technical summary referred to in point (i) and (ii) above must contain an express representation that the information provided is true and accurate and be signed by a company official with legal authority for such purpose.

(b) Health, Safety and Environment (HSE)

Prospective bidder(s) must provide evidence of having in place proper operational procedures on health, safety and environmental, in accordance to the Best Practices of the Mining Industry and submit to ANPM for evaluation the following information and data:

- (i) HSE policies and procedures, including prospective bidder(s) policies and procedures with regard to health, safety and welfare of the persons involved in the Mining Activities and protection of the natural and marine environment, and

prevention, minimization and remedy of pollution occurrences and other environmental hazards. In the event prospective bidder(s) has/have not yet adopted HSE policies and procedures, same must provide a Statement Letter declaring its/their commitment to establish HSE policies and procedures to support its operations in the event Mineral Rights are awarded following the Public Tender procedures;

- (ii) HSE records of the previous one to three (1 to 3) years, including, but not limited to, site injuries, mechanical/structural failures, environmental impact and remediation efforts.

Each member of a consortium formed to bid for the Public Tender shall be required to submit the information and documentation listed in Section 2.3(a) and (b) above, where applicable. The technical qualification of prospective bidder(s) organized as a consortium shall be made based on the combined review and assessment of the aggregated technical capability of all the consortium members.

Local Communities Engagement and Local Content Qualification

Holders of Mineral Rights are statutorily required to engage with and safeguard the rights of local communities in the Concession Area and neighbouring areas. Holders of Mineral Rights are further subject to certain local content requirements with the aim to maximize the participation of Timor-Leste nationals through employment and training as well as the supply of Timor-Leste Goods and Timor-Leste Services. Therefore, ANPM seeks to be provided with the prospective bidder(s)' local communities engagement and local content commitments (and previous local content initiatives, if applicable). Prospective bidder(s) must produce evidence or submit a Statement Letter briefly outlining the following:

- (a) Plan for resettlement and engagement/protection of local communities;
- (b) Track-record in sourcing of Timor-Leste Goods and Timor-Leste Services in ongoing or previous exploration and mining operations (if applicable) and Local Content Policies and Plan for procurement of Timor-Leste Goods and Timor-Leste Services;
- (c) Local Content Policies and Plan for employment and training Timor-Leste employees;
- (d) Local Content Policies and Plan for transfer of technology and know-how to Timor-Leste entities and nationals.

Final Notes

- a) All the above qualification documents shall be prepared in Portuguese or English languages.
- b) Each pre-qualification application must be submitted as soon as bidding announcement is publicly opened and 7 days before the bid submission date is closed.
- c) For the purposes of this pre-qualification, the technical, financial and legal qualification requirements shall prevail, while the local community engagement and local content requirements shall be deemed ancillary for the assessment of the merits of the bid;
- d) This is a non-binding document and the pre-qualification of any prospective bidder thereunder cannot be deemed or construed as granting the prospective bidder any guarantee of award of Mineral Rights. A company pre-qualified under this guideline is not mandatorily required to submit any bids in the Public Tender;
- e) In order to facilitate the prospective bidder to know which are the required documents for pre-qualification assessment needed to be submitted, the prospective bidder should refer to the document checklist form as attached under schedule 1 of these Pre-Qualification Guidelines;
- f) The pre-qualification of any prospective bidder(s) may be unilaterally revoked by ANPM in the following circumstances:
 - i) In case of bankruptcy dissolution or change of control of the prospective bidder(s) or any member of a consortium formed to bid for the Public Tender;
 - ii) At the prospective bidder(s)s request;
 - iii) In case of cancellation of the Public Tender procedures.

SCHEDULE I: DOCUMENTS CHECKLIST FORMS

A. Financial and administrative qualifications documents required:

No.	Financial and Administrative Documents required (Mining Code Chapter 3 and 4)	Remarks Notes:	Yes	No	Observation and comments
1	Companies are required to have a fully paid-up share capital equivalent to or in excess of US\$ 25,000.00 (Twenty-Five Thousand United States Dollars)	Evidence of the shares can be shown through SERVE Certificate and company Statute.			
2	Company financial year statements of the last two (2) years verified by a chartered accountant or certified public accountant, which may include balance sheets, income statements, statements of retained earnings, cash flow statements, notes to the accounts and Directors' reports.	Acknowledging the practical limitations in Timor-Leste, a valid company bank statement showing transaction in the last two years will suffice this requirement.			
3	A Statement Letter outlining the prospective bidder(s) financial capability	Notes: the Statement Letter must outline: <ul style="list-style-type: none"> i. Details of medium-term plans which may materially alter the financial status of the prospective bidder(s); 			

		<ul style="list-style-type: none">ii. Specific and detailed information on how it intends to finance the work commitments for exploration and evaluation phase and subsequent mining phase and letters of support associated with the projected financing, detailing the steps and timing required to secure the necessary funds (where applicable);iii. Any additional information evidencing the financial capacity of the prospective bidder(s).			
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B. Legal and administrative Documents required:

No.	Legal documents required (Mining Code Chapter 3 and 4)	Remarks Notes:	Yes	No	Observation and comments
1	Company Legal Qualification	<p>i. Companies are required to show legal evidence showing their incorporations under the Timor-Leste Law and evidence showing majority controlling interest held by Timorese Nationals (sole traders are not qualified to bid for this Public Tender).</p> <p>ii. Acceptable information may include company statute, business registration by SERVE and any other documents required under Timor-Leste Commercial Company Laws.</p> <p>iii. Prospective bidder(s) must indicate evidence of their sectoral business nomenclature with SERVE for activities pertaining to Mining Sector.</p> <p>iv. Prospective bidder(s) must provide documentation evidencing track-record of any mergers, demergers and similar transactions in past three (3) years, where applicable.</p> <p>v. Prospective bidder(s) must provide documentation evidencing the track-record of compliance with principles of good corporate citizenship.</p>			

	Company Tax Certificate	Companies must provide evidence of valid tax return certificate from Ministry of Finance for the last two (2) years and non-debtor tax certificate.			
2	A Statement Letter detailing any current projects and ventures in which the prospective bidder(s) may be engaged in	Any ongoing projects that commitments in the short, medium and long term, including work programs and/or risks, namely those that may have an impact on prospective bidder(s)'s ability to to exercise the Mineral Rights that may be awarded to it following the Public Tender procedures.			
3	Organizational chart and number of employees	If applicable, it can be breakdown into by country and within each country and/or region, by category and nationality.			
4	A Statement Letter signed by a company official with legal authority for such purpose attesting that there are no pending litigation, legal proceedings, or other similar circumstances.	A letter statements signed by the official of the company stating that no pending litigation, legal proceedings or other similar circumstances that may that may have an impact on the prospective bidder(s)'s ability to exercise the Mineral Rights that may be awarded to it following the Public Tender procedures or the bankruptcy of the company.			

C. Technical documents required:

No.	Technical documents required (Mining Code Chapter 6 and Chapter 8)	Remarks Notes:	Yes	No	Observation and comments
1	Prospective bidder(s) shall provide a technical summary document by showing its/their technical operating capability.	<p>The technical summary shall at least outline the followings:</p> <ul style="list-style-type: none"> i. Prospective bidder(s)'s assets in the last three to five (3 to 5) years, including a detailed summary of ongoing activities; ii. Lists of technical personnel and their technical competencies in the field of sand / [construction materials] and/or other minerals exploration and mining in the form of Curriculum Vitae (CVs); 			
2	HSE Statement Letter	<p>As for the HSE technical document required, prospective bidder(s) is/are required to provided HSE Statement Letter which further outline the following:</p> <p>(1) How it intends to uphold HSE principals in its operations and to establish HSE policies and procedures for its operations if Mineral Rights are awarded to it further to the Public Tender. If available, prospective bidder(s) shall provide a copy of HSE policies and procedures (including prospective bidder(s) policies and procedures with regard to health, safety and welfare of the persons involved in the Mining Activities and protection of the natural and marine environment, and prevention, minimization and remedy of pollution occurrences and other environmental hazards). In the event</p>			

		<p>prospective bidder(s) has/have not yet adopted HSE policies and procedures, same must provide a Statement Letter declaring its/their commitment to establish HSE policies and procedures to support its operations in the event Mineral Rights are awarded following the Public Tender procedures;</p> <p>(2) HSE records of previous three to five (3 to 5) years, including, but not limited to site injuries, mechanical/structural failures, environmental impact and remediation efforts.</p>			
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D. Local Communities Engagement and Local Content documents required:

No.	Local Communities Engagement and Local Content documents required (Mining Code Chapter 5 and 9)	Remarks Notes:	Yes	No	Observation and comments
1	A letter of statement outlining prospective bidder(s) local communities engagement and local content commitments	<p>Notes: to meet the requirements, the applicant is required to provide brief summary outlining the following:</p> <ul style="list-style-type: none">(i) Plan for resettlement and engagement/protection of local communities;(ii) Track-record in sourcing local goods and services for any ongoing or previous operations (if applicable) and Local Content Policies and Plan for procurement of Timor-Leste Goods and Timor-Leste Services;(iii) Local Content Policies and Plans for employment and training of Timorese employees;(iv) Local Content Policies and Plans for transfer of technology and know-how to local entities and Timorese nationals.			

ANNEX VI

BID APPLICATION FEE PAYMENT DETAILS

BID APPLICATION FEE PAYMENT DETAILS

They payment of the bid application fee of US \$ 150.00 (one hundred and fifty American Dollars) pursuant to Section 4(f) of the ToR should be deposited in the following Account:

Bank Name	:	Banco Nacional de Comércio de Timor-Leste - BNCTL
Swift/BIC Code	:	BNCTTLDD
IBAN	:	TL380040210022471151649
Beneficiary	:	MINERAL OPERATION ROYALTY-ANPM
Bank Account Number	:	02100224711516 () Government Acct.
Customer No.	:	296083
Currency	:	USD
Company Name	:	02 SUKURSAL DILI
District	:	DILI, Dom Aleixo, Kampung Alor
Detail Required	:	
		1. Name of Company making payment
		2. Taxpayer Identification Number
		3. Details/ Reference of Payment

ANNEX VII

POWER OF ATTORNEY

**POWER OF ATTORNEY FOR NOMINATION OF THE
ACCREDITED REPRESENTATIVE**

By the present Power of Attorney, [insert name of company] _____ (“**Company**”), incorporated and existing under the laws of República Democrática de Timor-Leste (RDTL), with head-offices at ____ [insert address of company headquarters] _____, hereby appoints ____ [insert name of and full title of Accredited Representative] _____, as its lawful representative with powers to represent the Company in all the relevant procedures related with the Public Tender for Award of Large Scale Exploration and Mining of Sands for Export Purpose (“**Public Tender**”), including, without limitation, to carry out any negotiations in relation thereof, as well as to perform all acts that may be deemed necessary or convenient for such purpose, such as, but not limited to, submit the bid application(s) and any amendment thereto, receive and respond to any written and oral follow-up clarification or document/information requests related with the Public Tender, submit and sign documents, pay fees/taxes, propose, resort to/obtain, agree on any terms of the Public Deed.

IN WITNESS WHEREOF, this Power of Attorney has been executed on and as of 2022

Name:

Title:

The undersigned, of the company, hereby certifies that the person whose signature appears immediately above is the duly elected accredited representative of the company and that the signature set forth above is that of such person.

Name:

Title:

ANNEX VIII

BID SUMMARY FORM

BID SUMMARY FORM

Exhibit 1

ENVELOPE BID AREA: _____

By submitting the enclosed bid, each company hereby undertakes that it accepts without reservation the terms and conditions of the Mineral Permit, Timor-Leste Mineral Fiscal regime in the Mining Code and agrees that, if awarded the above Bid Concession Area:

	Name of Company	Participation Percentage	Signature of Accredited Representative
1			
2			
3			
4			
5			
6			
7			

Note: This envelope should contain ONLY one bid form.

Exhibit 2**Proposed Minimum Work Program for Initial Two (2) Year Exploration Period**

Undertaking	Bid Units	Quantity (in numeric)	Quantity (in words)	Minimum Value (in the amount of US \$)
Desktop study	Hours			\$\$,\$\$\$
Field survey area	Km ²			\$\$,\$\$\$
Field survey (traverse line)	Meters			\$\$,\$\$\$
Field survey (observation point (OP))	Number of OP			\$\$,\$\$\$
Geological Study (deposit thickness, description of material, geological mapping, topography mapping, cross-section etc.)	Days			\$\$,\$\$\$
Sand Replenishment, hydrologic and morphologic survey and analysis of the river	Days			\$\$,\$\$\$
Deposit Modelling	Days			\$\$,\$\$\$
Test Pits	Pit Numbers			\$\$,\$\$\$
Quality Test (Analytical Technique1)	Samples			\$\$,\$\$\$
Quality Test (Analytical Technique 2)	Samples			\$\$,\$\$\$
Quantity Test	Samples			\$\$,\$\$\$
Financial and Marketing Analysis	Day			\$\$,\$\$\$
Other Activities [2]				
Other 1	Commitment (unit)			\$\$,\$\$\$
Other 2	Commitment (unit)			\$\$,\$\$\$
Local Content [3]				
Other 1	Commitment (unit)			\$\$,\$\$\$
Other 2	Commitment (unit)			\$\$,\$\$\$
Other 3	Commitment (unit)			\$\$,\$\$\$

Program for potential third and/or fourth (Year 3 and/or Year 4) Exploration Periods

Undertaking	Bid Units	Quantity (in numeric)	Quantity (in words)	Minimum Value (in the amount of US \$)
Desktop study	Hours			\$\$,\$\$\$
Field survey area	Km ²			\$\$,\$\$\$
Field survey (traverse line)	Meters			\$\$,\$\$\$
Field survey (observation point (OP))	Number of OP			\$\$,\$\$\$
Geological Study (deposit thickness, description of material, geological mapping, topography mapping, cross-section etc.)	Days			\$\$,\$\$\$
Sand Replenishment, hydrologic and morphologic survey and analysis of the river	Days			\$\$,\$\$\$
Deposit Modelling	Days			\$\$,\$\$\$
Test Pits	Pit Numbers			\$\$,\$\$\$
Quality Test (Analytical Technique1)	Samples			\$\$,\$\$\$
Quality Test (Analytical Technique 2)	Samples			\$\$,\$\$\$
Quantity Test	Samples			\$\$,\$\$\$
Financial and Marketing Analysis	Day			\$\$,\$\$\$
Other Activities [2]				
Other 1	Commitment (unit)			\$\$,\$\$\$
Other 2	Commitment (unit)			\$\$,\$\$\$
Local Content [3]				
<i>Local 1</i>	Commitment (unit)			\$\$,\$\$\$
<i>Local 2</i>	Commitment (unit)			\$\$,\$\$\$
<i>Local 3</i>	Commitment (unit)			\$\$,\$\$\$

Notes:

1. "Other Activities" refer to geo-technical / geophysical studies, analyses and surveys.
2. "Local Content" has the meaning described in Section 5.3 of the ToR. The sub-categories, ("Local 1" e.g.) should be replaced by a summary of the proposed undertaking (which should be described more fully in the bid support materials).

EXHIBIT 3
BID INSTRUCTION

1. Insert quantity of amount of bids for each activity in numbers (column 3) and in words (column 4). If there is any conflict between words and figures, the words will prevail.
2. In the case of proposed field survey enter the minimum size (km²) of the area and minimum financial commitment to carry out the survey.
3. In the case of the proposed sample acquisition traverse (m) enter the minimum length of the traverse and the minimum financial commitment.
4. In case of the proposed observation point (OP) enter the minimum number of the observation point in the field and the minimum financial commitment.
5. In case of the proposed geological study enter the minimum number of days to carry out such work and the minimum financial commitment.
6. In case of the proposed sand replenishment, hydrologic and morphologic survey enter the minimum number of days to carry out such work and the minimum financial commitment.
7. In case of the proposed deposit modelling enter the minimum number of days to carry out such work and the minimum financial commitment.
8. In case of the proposed test pit enter the minimum number of sample pit and potential depth and the minimum financial commitment.
9. In case of the proposed quality test, enter the analytical techniques that will be undertaken for the samples and the minimum financial commitment.
10. In case of the proposed quantity test, enter the analytical techniques that will be undertaken for the samples and the minimum financial commitment.
11. In case for the financial and marketing analysis, enter the minimum number of days to carry out such work and the minimum financial commitment.
12. For all other proposed work, describe the activity and the minimum related expenditure commitment.

ANNEX IX

BID BOND

BID BOND

1. In order to guarantee the winning bidder's obligation to execute the obligations under the Mineral Permit for the relevant Concession Area, each bidder(s) should present to the ANPM a Bid Bond for each Concession Area on which the bidder(s) presents a bid. The Bid Bond will be in amount of twenty thousand United States Dollars (US\$ 20,000). This Bid Bond, in the form of a Bank Guarantee consistent with the model in Exhibit I of this Annex X, must be delivered to the ANPM prior to or coincident with any Bid that is submitted.
2. Bidder(s) that have the intention of presenting bids for more than one Concession Area should ensure that they have sufficient Bids Bonds for each Concession Area, so that they will not be limited in their capacity to present bids.
3. Bid Bonds will take the form of Bank Guarantee issued by local commercial banks operating in Timor-Leste.
4. The Bid Bonds of the bidders that were not indicative winners in the relevant Concession Areas will be returned in the week following the bid winner announcement, along with all other documentation necessary for their cancellation. All other documentation sent to the ANPM will not be returned. However, for the winning bidder(s) the Bid Bonds shall only be returned upon the award of the Mineral Permit.
5. The ANPM, on behalf of the Government of Timor-Leste may draw on the Bid Bond in the following circumstances:
 - (a) The winning bidder, or any participating company in the winning bidder consortium, withdraws from being granted Mineral Permit within the timeframe and in accordance with the procedures described in the ToR.
 - (b) The Bank Guarantee required under Annex XI of the is not provided to the ANPM, precluding the execution of the Mineral Permit obligation.
6. If none of the foregoing events referred to in section 5 above occur, the ANPM will return the Bid Bond to the winning bidder(s), along with the documentation necessary for its cancellation within five (5) business days after the award of the Mineral Permit.

Exhibit I: Bid Bond Form

BID BOND FORM

[DATE]

TO

Autoridade Nacional do Petróleo e Minerais (ANPM)
on behalf of the Government of the Democratic Republic of Timor-Leste
DILI, TIMOR-LESTE

Performance Bond no [insert] for US\$ 20,000.00

To: The Government of the Democratic Republic of Timor-Leste represented by the
Autoridade Nacional do Petróleo e Minerais

This Performance Bond, We [**BANK NAME**] with a capital of [**FIGURE BANK TO INSERT**] having our registered office at – [**BANK ADDRESS**] (hereinafter referred to as the "Surety") is held and firmly bound unto the Government of the Democratic Republic of Timor-Leste, represented by the Autoridade Nacional do Petróleo e Minerais (hereinafter referred to as the "ANPM") in the sum of US\$ 20,000.00 for payment of which sum the Surety binds itself, its successors and assigns by these presents.

WHEREAS:

1. The [**WINNING BIDDER(S)**], a company established under the laws of the Democratic Republic of Timor-Leste with registered office at (company address) has bid for the award of Mineral Rights for Large Scale Exploration and Mining of Sand / [Construction Materials] for Export Purposes in the [insert] Concession Area ("Public Tender").
2. Under the Public Tender ToR, the [**WINNING BIDDER(S)**] must submit a Bank Guarantee of twenty thousand US Dollars (US\$ 20,000) prior to the award of the Mineral Permit (hereinafter "**Bid Bond**").

NOW THE CONDITION of this Bid Bond is that the Surety does hereby guarantee and undertake to pay immediately on the first demand in writing and any/all money(s) to the extent of twenty thousand US Dollars (US\$ 20,000.00) without any demur, reservation, contest or protest and/or without any reference to the [**WINNING BIDDER(S)**]. Any such demand made by the ANPM on the Surety by serving a written notice shall be conclusive and binding, without any proof, on the Surety as regards the amount due and payable, notwithstanding any dispute(s) pending before any court, tribunal, arbitrator, sole expert, conciliator or any other authority and/or any other matter or thing whatsoever, as liability under these presents being absolute and unequivocal.

Notwithstanding anything contained herein above, the Surety's liability under this Bid Bond is limited to twenty thousand US Dollars (US\$ 20,000.00) and the Bid Bond shall remain in force up to thirty (30) business days after the date that the [**WINNING BIDDER**] has been awarded the Mineral Permit for the [insert] Concession Area in Timor-Leste.

This Bid Bond shall not be determined, discharged or affected by the liquidation, winding up, dissolution or insolvency of the [**WINNING BIDDER**] and shall remain valid, binding and operative against the Surety.

The Surety hereby undertakes that the payment in settlement of claims lodged with the Surety in accordance with the terms and conditions of the Bid Bond, shall be effected seven (7) business days after receipt by the Surety of such claim, by wire transfer to the account with the following details:

Bank Name	:	Banco Nacional de Comércio de Timor-Leste - BNCTL
Swift/BIC Code	:	BNCTTLDD
IBAN	:	TL380040210022471151649
Beneficiary	:	MINERAL OPERATION ROYALTY-ANPM
Bank Account Number	:	02100224711516 () Government Acct.
Customer No.	:	296083
Currency	:	USD
Company Name	:	02 SUKURSAL DILI

District	:	DILI, Dom Aleixo, Kampung Alor
Detail Required	:	
		1. Name of Company making payment
		2. Taxpayer Identification Number
		3. Details/ Reference of Payment

In Witness whereof the SURETY has signed and sealed this Bond on this

[X] day of [MONTH] 202x.

ANNEX X

BID EVALUATION MATRIX

BID EVALUATION MATRIX

No	Proposed Minimum Work Programme	Unit	Propose Work Programme	Maximum assigned scores	Scores gained
A	Field survey	... in km ²		5	
B	Observation and traverse	... in m		5	
C	Sample acquisition and pit test	Number of samples and pits		5	
D	Geological Study (deposit thickness, description of material, geological mapping, topography mapping, cross-section etc.)	US\$.... (in US\$ value)		10	
E	Sand Replenishment, hydrologic and morphologic survey and analysis of the river	US\$.... (in US\$ value)		15	
F	Deposit Modelling, Quality and Quantity Test	US\$.... (in US\$ value)		15	
G	Total commitment for other technical studies geotechnical and geophysical surveys and analyses	US\$.... (in US\$ value)		5	
H	Financial and Marketing Analysis	US\$.... (in US\$ value)		10	
I	Local Content	US\$.... (in US\$ value)		5	
J	Proof of Financial Capabilities	This evaluation will be seen from the bidders' financial statements provided		10	
K	Companies experiences in E&P and H&E Good standing (5), Access to technical experts (2), Technology & Innovation (1), Companies branding (2)	This evaluation will be based on the proof of evidences / documents submitted		10	
L	Results of the Preliminary technical studies/assessment performed based on the available data as the base of the biddings	This assessment will be based on the result of the bidders' technical evaluation of areas to be bided for based on the available technical data		5	
	Total Score for the bids			100	

Note:

1. The evaluation committee shall assess the bid based on the above matrix;
2. The evaluation scores shall be applied to the minimum work commitments provided in the matrix;
3. For each individual bid concession area that has two bid submission or more, the maximum consideration for the based on the average of the total of each maximum assigned score attribution for each bid element over any of each highest bid element submitted.

ANNEX XI

MODEL PERFORMANCE BOND

MODEL PERFORMANCE BOND/BANK GUARANTEE

TO

Autoridade Nacional do Petróleo e Minerais (ANPM) on behalf of the Government of the Democratic Republic of Timor-Leste, DILI, TIMOR-LESTE Performance Bond no *[insert]* for US\$XXX (xxxx)

This Performance Bond, We [**BANK NAME**] with a capital of [Bank to insert] having its registered office at –BANK ADDRESS (hereinafter referred to as the "**Surety**") is held and firmly bound unto the Government of the Democratic Republic of Timor-Leste, represented by the Autoridade Nacional do Petróleo e Minerais (hereinafter referred to as the "**ANPM**") in the sum of US\$XXX (XXX) for payment of which sum the Surety binds itself, its successors and assigns by these presents.

WHEREAS:

1. On [date], the ANPM awarded the [HOLDER OF MINERAL RIGHTS], a company established under the laws of the Democratic Republic of Timor-Leste with registered office at [company address], mineral rights for the exercise of for Large Scale Exploration and Mining of Sand / [Construction Materials] for Export Purposes in the [insert] Concession Area, in Timor-Leste.
2. Under the terms of the Mineral Permit, the [HOLDER OF MINERAL RIGHTS], must submit a Performance Bond to guarantee the minimum work program and expenditure commitments under the Mineral Permit/ Exploration and Evaluation License. Consequently, Parties hereby provided Performance Bond number xxxx for US\$xxx (xxxx) (hereinafter referred to as the "Initial Performance Bond") to guarantee the [HOLDER OF MINERAL RIGHTS] minimum work and expenditure commitments under the Mineral Permit / Exploration and Evaluation License.
3. The terms used in this Performance Bond shall have the same meaning as those in the Mineral Permit / Exploration and Evaluation License.

NOW THE CONDITION of this Performance Bond is that the Surety does hereby guarantee and undertake to pay immediately on the first demand in writing and any/all money(s) to the extent of US\$ xxx (xxx) without any demur, reservation, contest or protest and/or without any reference to the [HOLDER OF MINERAL RIGHTS]. Any such demand made by the ANPM on the Surety by serving a written notice shall be conclusive and binding, without any proof, on the Surety as regards the amount due and payable, notwithstanding any dispute(s) pending before any court, tribunal, arbitrator, sole expert, conciliator or any other authority and/or any other matter or thing whatsoever, as liability under these presents being absolute and unequivocal.

Notwithstanding anything contained herein above, the Surety's liability under this Performance Bond is limited to US\$xxx (xxx) and such a Bond shall remain in force until termination of the Mineral Permit / expiry or cancellation of the Exploration and Evaluation License .

This Performance Bond shall not be determined, discharged or affected by the liquidation, winding up, dissolution or insolvency of the [HOLDER OF MINERAL RIGHTS] and shall remain valid, binding and operative against the Surety.

The Surety hereby undertakes that the payment in settlement of claims lodged with the Surety in accordance with the terms and conditions of the Performance Bond, shall be effected seven (7) business days after receipt by the Surety of such claim, by wire transfer to:

Bank Name	:	Banco Nacional de Comércio de Timor-Leste - BNCTL
Swift/BIC Code	:	BNCTTLDD
IBAN	:	TL380040210022471151649
Beneficiary	:	MINERAL OPERATION ROYALTY-ANPM
Bank Account Number	:	02100224711516 () Government Acct.
Customer No.	:	296083
Currency	:	USD
Company Name	:	02 SUKURSAL DILI
District	:	DILI, Dom Aleixo, Kampung Alor

Detail Required	:	
		1. Name of Company making payment
		2. Taxpayer Identification Number
		3. Details/ Reference of Payment

This Performance Bond is subject to the *Uniform Rules for Demand Guarantees (2010 Revision)*, *International Chamber of Commerce Publication No. 758 (the "URDG")*. As to matters not covered by the URDG, this Performance Bond shall be governed by and construed in accordance with, the laws of Timor-Leste.

In Witness whereof the SURETY has signed and sealed this Bond on this

[X] day of [MONTH] 202x.