POWER STONE CC

Application for Environmental Clearance Certificate (ECC) for the proposed borrow pit for the extraction of Sub-Base Material, near Swakopmund, Erongo Region

Proponent:
POWER STONE CC.
P.O Box 8279
Swakopmund

APP-006368

Project Name:
Application for Environmental Clearance Certificate (ECC) for the proposed extraction of Sub-Base Material, near Swakopmund, Erongo Region

Location, Coordinates:
Latitude: –22.704167°, Longitude: 14.588889°

Intended Use:
Development of borrow pit to extract construction material (sub-base) for road and infrastructure projects in the Erongo Region.

Regulatory Authority:
Ministry of Environment, Forestry, and Tourism

Consultant:
EARTH ENVIRONMENTAL SERVICES
Earth Environmental Services cc
10 Schützen Street, CBD, Windhoek
Email: emerita@earth-es.com.na / emerita.ashipala@gmail.com

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NON-TECHNICAL SUMMARY

Power Stone CC proposes the development of a borrow pit for the extraction of sub-base material approximately 18 km east of Swakopmund, within the Dorob National Park in the Erongo Region. Earth Environmental Services CC (EES) was appointed to undertake the Environmental Impact Assessment (EIA) and prepare the Environmental Management Plan (EMP) in support of the application for an Environmental Clearance Certificate (ECC). The extracted material will comprise sand, gravel, and calcrete required for road construction and related infrastructure development within the region.

The proposed borrow pit covers an area of approximately 11.70 hectares and will be accessed via the C28 road and an existing gravel access track. Extraction will be shallow, limited to a maximum depth of 1.5 m, with no blasting, chemical processing, or permanent infrastructure required. The operation will follow a low impact, phased approach involving site demarcation, surface scraping, loading and hauling of material, and progressive rehabilitation. All equipment and temporary facilities will be mobile and removed upon closure.

Baseline assessments and site investigations indicate that the proposed footprint is located on a largely featureless gravel plain characterised by sparse desert vegetation and evidence of historical disturbance. No sensitive habitats, lichen fields, drainage lines, or key biodiversity features were identified within or adjacent to the proposed borrow pit area. Plant species recorded are common and widespread within the central Namib, while fauna presence is limited to mobile desert species. The underlying geology consists of shallow calcrete and sandy deposits, and the proposed extraction will not intersect groundwater. No water abstraction is required, and all potable water will be sourced off-site as may be required.

The socio-economic context of the project is centered on Swakopmund and Walvis Bay, which function as major regional hubs for tourism, trade, logistics, and mining. Given the small scale, temporary nature, and remote location of the borrow pit, the proposed activity is not expected to interfere with tourism routes, recreational areas, or conservation objectives within the Dorob National Park, provided that access control and dust mitigation measures are effectively implemented.

The EIA identified potential impacts during the planning, operational, and rehabilitation phases, including dust generation, noise, localised vegetation disturbance, minor habitat loss, visual intrusion, and low-level risks associated with fuel handling and waste management. All identified impacts were assessed as low to moderate in significance prior to mitigation and are expected to reduce to low or very low following the implementation of the prescribed mitigation measures. Positive impacts include short-term employment creation, local procurement opportunities, reduced haul distances for construction materials, and improved availability of aggregate to support regional infrastructure development.

Progressive rehabilitation will be implemented throughout the operational life of the borrow pit, with disturbed sections backfilled, reshaped, and topsoil respread as extraction advances. Final rehabilitation will include the removal of all temporary infrastructure and shaping of the landform to blend with the surrounding desert environment, allowing natural aeolian processes to restore the site's appearance.

Based on the findings of this EIA, the proposed borrow pit can be developed and operated with **low residual environmental impact**, provided that the EMP is fully implemented. It is therefore recommended that an Environmental Clearance Certificate be issued, subject to the following key conditions:

- Compliance with all EMP commitments and MEFT requirements
- Restriction of activities to the approved 11.70 ha footprint
- Use of existing access tracks only
- Obtain all additional permits or approvals that may be required
- Ensure that rehabilitation is implemented progressively and in accordance with regulatory requirements.
- Coordinate and communicate with relevant stakeholders throughout project implementation to promote coexistence, including responding to enquiries, addressing site related concerns, and keeping affected parties and authorities informed of project progress and environmental compliance.

The project is considered environmentally manageable, technically feasible, and socio-economically beneficial, with impacts that are localised, temporary, and reversible when managed in accordance with the proposed mitigation measures.

1. INTRODUCTION

1.1. Background

Power Stone CC (hereinafter referred to as the Proponent) is applying for an Environmental Clearance Certificate (ECC) for the extraction of sub-base material from a designated borrow pit located east of Swakopmund within Dorob National Park. Earth Environmental Services CC (EES) has been appointed to undertake the Environmental Impact Assessment (EIA) and prepare the Environmental Management Plan (EMP) in support of the ECC application.

The proposed activity involves light-touch surface extraction of compacted sub-base soils through controlled scraping, without creating deep excavations or permanent pits. Extraction will not exceed a depth of 1.5 m, and much of the work will occur close to natural ground level to maintain the integrity of the landscape.

1.2. Location, Site Description, Land Use and Infrastructure

1.2.1. Project Location

The project area is located approximately 18 km east of Swakopmund, within Dorob National Park in the Erongo Region. Access to the site is gained via the C28 road, followed by a short gravel track leading directly to the demarcated borrow pit area. The proposed footprint of the borrow pit covers 11.70 ha (Figures 1–2).

1.2.2. Current land use

The project area lies within Dorob National Park, a coastal conservation landscape that operates under a multi-use land management framework. The park supports ecological protection while accommodating limited, carefully regulated activities such as recreation, tourism, filming, research and small-scale resource use.

The eastern plains of Dorob National Park, where the proposed borrow pit is situated, are characterised by flat gravel surfaces, sparse vegetation and evidence of past human activity. Historical small-scale mining and exploration have occurred in various parts of the park, and a

network of old vehicle tracks is visible across several sections.

These conditions reflect Dorob's inclusive conservation model, which allows low-impact, temporary activities under strict environmental controls, provided that operations do not compromise ecological function, tourism value or landscape character. The proposed sub-base extraction aligns with this framework because it is shallow, temporary, rehabilitated progressively, and restricted to a clearly defined polygon.

1.2.3. Site Description

The proposed 11.70 ha borrow pit is located on a predominantly flat, open gravel plain typical of the eastern Namib. The site supports very sparse vegetation and shows signs of historic disturbance from past land uses, including informal tracks and small areas of ground disruption.

The proposed extraction areas do not intersect the Swakop River system, its tributaries, or associated drainage lines. The Swakop River lies to the south of the proposed footprint, and no hydrological connectivity between the borrow pit areas and the river system has been identified.

The sites are situated on gravel plains characteristic of the central Namib and are not located within active coastal dune systems. Active dune fields associated with the coastal environment occur further west, closer to the coastline. The proposed borrow pits are therefore spatially separated from mobile dune systems that directly influence coastal sediment dynamics.

A site visit confirmed that:

- The terrain is largely bare and uniform, with minimal ecological sensitivity.
- Previous surface disturbances are present but shallow and scattered.
- Access is already established through existing tracks; no new roads are required.
- The surrounding area contains no permanent infrastructure, as indicated in figure 2-3.

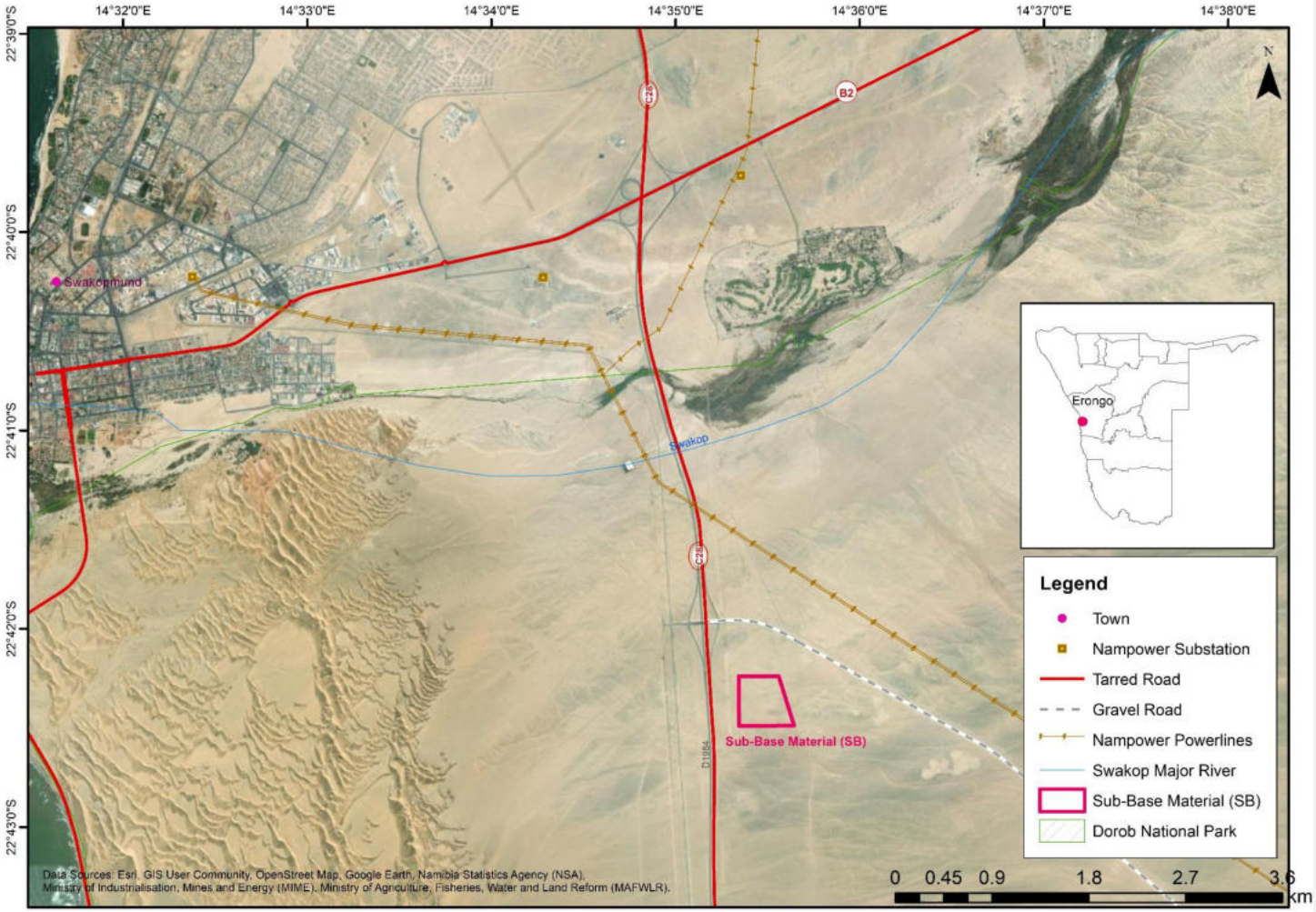


Figure 1 – Locality map and infrastructure of the proposed project

Figure 2- Current land use and historic mining in the proposed area

Figure 3 - Temporary infrastructure and limited vegetation observed in the proposed borrow pit area

2. PROPOSED PROJECT DESCRIPTION

2.1. Project Activities: Sub-Base Material Extraction

The proposed project involves the extraction of sub-base material from a borrow pit. The activities follow a phased development approach that includes preliminary assessment, site establishment, material extraction, stockpiling, hauling, and rehabilitation. The full operational sequence is outlined below:

Initial On-Site Preparation and Demarcation: Before any field activity begins, the proponent Pegging and surveying the borrow pit boundaries. The site is prepared for safe extraction. Activities include:

- Establishing access via existing tracks
- Installing safety warning signs
- Clearing minor vegetation within the approved footprint
- Removing and stockpiling the topsoil layer for rehabilitation

Extraction of Sand and Sub-Base Material

- The extraction method resembles controlled shaving of the terrain rather than deep excavation. On-site operations include:
- Scraping of Surface Layers: Graders and front-end loaders skim thin layers of compacted material, keeping depth within the 1.5 m limit. Operators maintain a consistent, shallow profile to retain natural landform characteristics.
- Loading and Temporary Stockpiling: Material is pushed into windows or small stockpiles. Loaders transfer sub-base material into tipper trucks for hauling construction projects.
- No blasting, chemicals or wet processing are used. All operations rely on diesel-powered machinery without establishing long-term facilities on site.

The extraction process will focus on shallow scraping of compacted sub-base material, rotating activity across small working areas. This approach allows for rapid natural recovery, with wind-driven sediment redistribution smoothing worked surfaces over time.

The Proponent is committed to ensuring that extraction activities remain low impact, controlled, and fully rehabilitated. Progressive rehabilitation will occur throughout the operational period, including re-shaping of scraped areas, spreading of stored topsoil and smoothing of edges to avoid artificial depression.

Clear communication will be maintained with relevant authorities and stakeholders throughout the project lifecycle to ensure that operations remain compatible with conservation objectives and other land uses in Dorob National Park.

Figure 4 - Typical example of the operations

2.2. Supporting Infrastructure

Access and Transportation

The Proponent will make use of existing road networks for all site access. Access to the borrow pit is via the C28 road, followed by an existing gravel track leading to the demarcated site. Prior to any entry into Dorob National Park, the necessary authorisation from the Parks Division will be obtained.

Should field operations continue over an extended period, the Proponent will coordinate with MEFT and any relevant land users to ensure that access arrangements, security considerations, and environmental protection measures are clearly agreed upon. No new tracks will be created unless formally authorised.

Site Facilities and Worker Accommodation

Only temporary and minimal site facilities will be established to support extraction activities. These may include:

- A small mobile maintenance area
- Portable toilets and sanitation units
- A secure waste collection point

No permanent infrastructure or fixed buildings will be erected. Worker accommodation will not be provided on site; personnel will commute daily from nearby towns such as Swakopmund or Henties Bay. This approach reduces disturbance and avoids the need for additional services inside the park.

Utilities and Resource Supply

No water or power services will be required for the borrow pit operations. Water use will be limited to potable water for drinking purposes and will be transported to the site as required.

Fuel for all machinery will be obtained through daily refuelling in town, and no fuel will be transported to or stored at the site. As a result, no on-site fuel storage will be required. Spill kits will nonetheless be available as a precautionary measure.

A comprehensive waste management system will be implemented. All general and hazardous waste will be removed from the site and disposed of at approved municipal facilities. No waste will be buried, burned, or stored on site, and a strict take-out policy will be enforced to ensure compliance with environmental requirements.

Rehabilitation and Closure

Rehabilitation will be carried out continuously during the extraction process so that disturbed sections are restored as soon as they are completed. Scraped areas are back shaped and recontoured to match the surrounding natural terrain, with stored topsoil spread over levelled sections to promote quick surface recovery. Edges are smoothed to prevent the formation of artificial depressions, and all temporary structures and waste are removed to leave a clean, undisturbed footprint. Natural wind action then assists the process by redistributing fine sediments and softening any remaining tracks. By the time final closure is reached, the worked areas have been re-integrated into the landscape, resulting in stable, safe surfaces that blend seamlessly with the wider desert environment.

3. PURPOSE OF THE REPORT

This report has been prepared in accordance with the Environmental Management Act (EMA) No. 7 of 2007 and the Environmental Impact Assessment (EIA) Regulations of 2012. The proposed sub-base material extraction activity triggers listed activities that cannot be undertaken without an Environmental Clearance Certificate (ECC).

An ECC application will therefore be submitted to the Ministry of Environment, Forestry and Tourism (MEFT) as the issuing authority. No project activities may commence until MEFT has issued its decision.

The listed activities relevant to this project include:

MINING AND QUARRYING ACTIVITIES

3.1 The construction of facilities for any process or activity that requires a licence, right, or authorisation, including renewals, in terms of the Minerals (Prospecting and Mining) Act, 1992.

3.2 Any other form of mining or extraction of natural resources, whether regulated by law or not.

3.3 Resource extraction, manipulation, conservation, and related activities.

Applicability:

The proposed development involves the extraction of sub-base material through shallow, controlled surface scraping. Although this is not mining in the conventional sense, it is classified as a resource extraction activity, which triggers Listed Activities 3.1–3.3.

4. LEGAL REQUIREMENTS

4.1. List of applicable laws and legislations

The proposed borrow pit project must comply with national environmental and resource-use legislation as summarised in table 1.

Table 1: List of applicable laws and legislations

LAW	SUMMARY DESCRIPTION	PERMITS & APPROVALS REQUIRED
Constitution of the Republic of Namibia, 1990	Establishes national governance principles. Article 95 promotes sustainable natural resource management and environmental protection.	No permit is required, but all project activities must comply with constitutional sustainability objectives.
Environmental Management Act, 2007 (Act No. 7 of 2007) and EIA Regulations, 2012 (MEFT)	Governs environmental protection, requiring EIAs and EMPs for listed activities including resource extraction. Ensures that environmental impacts are identified, assessed and managed.	Environmental Clearance Certificate (ECC) required before commencement of borrow pit operations.
Parks and Wildlife Management Act / Dorob National Park Regulations (MEFT)	Regulate activities inside national parks to ensure conservation of sensitive landscapes.	Park Access Authorisation required for personnel, vehicles and equipment entering Dorob NP.
Water Resources Management Act, 2013 (MAWLR)	Regulates abstraction, use and protection of Namibia's water resources.	Water Abstraction Permit (if water abstraction is proposed – not required if water is transported to site). Effluent Discharge Permit (if liquid waste is generated – not expected for this project).

LAW	SUMMARY DESCRIPTION	PERMITS & APPROVALS REQUIRED
Forest Act, 2001 (MEFT)	Protects indigenous vegetation, especially protected species and riparian habitats.	Tree Harvesting Permit required if protected vegetation must be removed (unlikely due to sparse vegetation in the project area).
Hazardous Substances Ordinance, 1974 (Ordinance 14 of 1974) (MoHSS)	Regulates storage, handling and disposal of hazardous substances such as diesel and lubricants.	Hazardous Substance Handling Permit for fuel storage and handling (if stored on site).
Atmospheric Pollution Prevention Ordinance, 1976 (MoHSS)	Controls dust and air emissions, especially from activities generating particulate matter.	Applicable if dust becomes excessive; must implement dust suppression and mitigation.
Nature Conservation Ordinance, 1975 (MEFT)	Protects wildlife and plant species in Namibia. Restricts disturbance or removal of protected flora and fauna.	Permit for Removal of Protected Plant Species (if applicable). Wildlife Handling Permit (if fauna relocation becomes necessary).
Soil Conservation Act, 1969 & Amendment Act, 1971 (MAWLR)	Prevents soil erosion, degradation, and unsustainable land use.	No permit is required, but compliance with soil protection and rehabilitation guidelines is mandatory.
Labour Act, 2007 (MLIREC)	Ensures fair labour practices, workplace safety and protection of workers.	Work Permits for any foreign employees (if applicable). Compliance with all occupational health and safety provisions.
Petroleum Products and Energy Act, 1990 (MME)	Regulates the storage, handling and transport of fuel.	Consumer Installation Certificate for fuel storage facilities. Fuel Transport Permit if transporting fuel in bulk.
National Heritage Act, 2004 (MEAC)	Protects archaeological and heritage resources. Requires reporting of heritage discoveries.	Heritage Impact Assessment (HIA) if heritage resources are identified. Immediate reporting of finds under the Chance Find Procedure.

5. SCOPE OF REFERENCE

The scope of this Environmental Impact Assessment (EIA) is to systematically identify, evaluate, and manage the potential environmental and social impacts associated with the proposed borrow pit operations east of Swakopmund. The assessment draws on multiple information sources, including a review of existing literature, data provided by the proponent, stakeholder engagement, and site visits undertaken within the project area.

The objectives of the Environmental Scoping Assessment are to:

1. Identify potential environmental and social impacts both positive and negative that may arise from the proposed borrow pit activities.
2. Assess the significance, nature and extent of the identified impacts, considering direct, indirect and cumulative effects on the surrounding biophysical and socio-economic environment.
3. Recommend practical and effective mitigation measures to avoid, minimise or rehabilitate adverse impacts, while enhancing potential project benefits.
4. Engage with relevant stakeholders including park authorities, neighbouring users, and other interested and affected parties to ensure transparency, participation and inclusiveness in the assessment process.
5. Develop an Environmental Management Plan (EMP) that sets out clear actions, responsibilities, and monitoring requirements to guide environmentally responsible project implementation.
6. Support informed decision-making by the Ministry of Environment, Forestry and Tourism (MEFT).

6. EIA APPROACH AND METHODOLOGY

The project follows the Environmental Impact Assessment (EIA) Regulations, 2012, and the Environmental Management Act (EMA) Act No. 7 of 2007.

Steps in the EIA Process in Namibia
1. Project Identification The proponent identifies a project that may have potential environmental impacts. The project must be screened to determine whether an EIA is required.
2. Screening The proponent submits a Background Information Document (BID) to the Ministry of Environment, Forestry, and Tourism (MEFT). The Environmental Commissioner determines if the project requires an EIA based on the listed activities in the Environmental Management Act (EMA) Regulations.
3. Scoping (Terms of Reference & Public Consultation) If an EIA is required, a scoping study is conducted. Baseline environmental studies and public participation are undertaken.
4. Impact Assessment Identification and analysis of potential environmental, social, and economic impacts. Specialists may be required to conduct detailed studies on biodiversity, water resources, land use, and socio-economic conditions. Mitigation measures are proposed to minimize negative impacts.
5. Public Participation The proponent must inform and involve stakeholders (communities, government agencies, NGOs, businesses, and other interested parties). Public meetings, notices, and consultation sessions are held. Stakeholder feedback is incorporated into the EIA report.
6. Compilation and Submission of the EIA Report The EIA Report (including the Scoping Report, Impact Assessment, and Environmental Management Plan (EMP)) is prepared. The final report is submitted to the Environmental Commissioner at MEFT for review.
7. Review and Decision-Making MEFT reviews the EIA report, considering: The quality of documentation. Stakeholder input. Compliance. MEFT may approve, reject, or request modifications.
8. Environmental Clearance Decision If approved, the project is issued an Environmental Clearance Certificate (ECC). If not approved, the proponent may revise and resubmit the EIA or appeal to the Minister.
9. Monitoring and Compliance Once the project begins, environmental monitoring ensures compliance with the EMP. Periodic audits are conducted by MEFT. If violations occur, MEFT can enforce corrective actions or revoke the ECC.

Figure 5 – Summary EIA Flow Chart

7. PROJECT MOTIVATION/RATIONALE

The Erongo Region is undergoing significant urban growth and rapid infrastructure development, with increasing demand for reliable construction materials to support roads, housing, and public works. Gravel, calcrete, river sand, and dune sand are critical inputs for these projects, and the availability of such materials directly affects the pace and cost of development in the region.

The establishment of the borrow pit will ensure that construction materials can be sourced locally rather than transported over long distances. This will not only reduce transport costs for contractors. By locating borrow pit closer to areas of high demand, the project will contribute to both economic and environmental efficiency.

Beyond cost savings, the borrow pit will play a vital role in supporting public infrastructure initiatives, including the construction and maintenance of regional and national roads. Importantly, the project will create opportunities for local employment during both the operational and rehabilitation phases. This includes skilled and semi-skilled jobs in excavation, haulage, site management, and environmental monitoring. Local communities will also benefit from skills transfer, which can improve long-term employability in the construction and mining sectors.

In the longer term, it will contribute to sustainable regional economic growth by unlocking infrastructure potential and improving service delivery to residents and businesses.

8. ALTERNATIVES CONSIDERED

An assessment of alternatives is required to ensure that potential environmental impacts, technical considerations, and socio-economic implications are evaluated before selecting the most suitable development option. Alternatives assist in identifying the environmentally preferable and practically feasible approach for the proposed borrow pit operation.

8.1. Site / Location Alternatives

The proposed extraction area contains naturally occurring concentrations of sand, calcrete and sub-base material suitable for construction use. These deposits are highly localised, and similar-quality materials are not uniformly distributed across the wider landscape. As a result:

- The borrow pit site is positioned directly on viable geological resources, limiting unnecessary ground disturbance elsewhere.
- Alternative locations were not considered feasible because they may not contain recoverable material of the same quality or quantity.
- Moving the pit outside the approved footprint would shift activities into more environmentally sensitive terrain or require new access routes, increasing ecological impact.

Considering geological suitability, environmental sensitivity and minimisation of new disturbance, no alternative sites were regarded as practical or preferable. The chosen location remains the most environmentally manageable option.

8.2. Resources and Operational Alternatives

Energy

Operations rely on diesel-powered machinery such as excavators, front-end loaders and tipper trucks. This is standard for small borrow pits and is currently the only practical option for continuous excavation in a remote, off-grid desert environment. While renewable energy systems may support future innovation, solar-powered heavy machinery is not yet viable, and electricity is not required on-site.

Access Roads

The project will rely on existing roads including the C34, C28 and D1984. No new access tracks will be developed unless specifically authorised.

Equipment and Infrastructure

Standard excavation equipment (excavators, loaders, and trucks) will be used. These machines offer efficient extraction with a small operational footprint. Although new technologies may become available in future, current equipment is appropriate for small-scale borrow pits in desert environments. Alternative machinery options would not offer practical or environmental advantages at this stage.

8.3. No-Go Alternative

The No-Go Alternative considers the scenario in which the proposed borrow pit and associated sand, calcrete and sub-base extraction activities do not proceed. Under this option, no disturbance would occur within the designated extraction area, and the natural landscape inside Dorob National Park would remain unchanged. Existing ecological conditions, surface soils, and landforms would continue to follow natural processes without human intervention.

While the No-Go scenario avoids all project-related impacts, it also means that no construction materials would be supplied from this source. Local contractors and public infrastructure projects would need to transport sand and sub-base materials from more distant locations. This would increase transport costs, elevate fuel consumption and emissions, and may shift extraction pressure to other areas that could be more environmentally sensitive or further from established road networks. In some cases, this may result in greater cumulative environmental impact compared to a controlled, low intensity borrow pit situated within an already disturbed or geologically suitable zone.

The No-Go Alternative would also forego employment opportunities and economic benefits associated with the project, including short-term job creation, local procurement and improved availability of construction materials for regional development.

For these reasons, although environmentally neutral, the No-Go Alternative may not be the most practical or beneficial option when considering broader socio-economic needs and Namibia’s infrastructure development priorities.

9. BASELINE ENVIRONMENT/ STUDY AREA

9.1. Biophysical Environment

9.1.1. Climate

Swakopmund is in the Erongo Region with a subtropical dry arid climate, which annually has temperatures varying from 14 to 21°C and barely above 25°C and below 13°C. The average cloud cover of this area causes seasonal variation throughout the year, there is a variation of four seasons, the clear (begins early March to mid-December), clearest (May), cloudy (begins mid-December to early March) and the cloudiest (January) (Spriggs & Amy, 2011).

The most form of precipitation in the region is rain being alone during February month. Rainfall in the western coast of Namibia is rarely common it stays with an average of (0 – 50 mm/a) where most rainfall is variable and localized and can be expected between the months of January through to April. It is also very common to successively experience years with no rainfall at all. Humidity level in this area does not typically vary, it remains steady at 5% throughout, the town also experiences a variation in wind speeds with an average of 14 km per hour in the windiest month July and the calmer month being March with an average of 11kmi per hour, mostly the wind blows from the south with a probability of 11 months (from February to January) reaching it highest peak of 55% (Spriggs & Amy, 2011).

There are four features that affect the coastal climate, these are the Benguela Upwelling System, the Great Escarpment, the Southern Atlantic Anticyclone and lastly the non-appearance of dominant geographical features on the 150-km wide plains which also makes it one of the most climatically stable areas (Swakopmund, 2011). The project area which is approximately 20km from Swakopmund lies within the Interior Foggy Zone (20-60km from the coast), this area is heavily precipitated by fog at night, and evaporation exceeds rainfall. Table 4 provides an overview of the regional climate data.

Table 4 - Regional Climate Data

Average annual rainfall (mm/a)	0-50
Variation in annual rainfall (%)	> 100
Average annual evaporation (mm/a)	2800-3000
Average annual temperatures (°C)	16-17
Average daily sunlight hours	8 – 9
Foggy days per year	75- 100

9.2. Fauna

Plants and animal communities are highly dependable on various factors such as climate, soil type and habitats. Although there are few known fauna and flora associated to the saline flats in this country their habitats (with water, food etc.) play a vital role so is their adaptation level, both fauna and flora in this area highly depend on fog (water source) as it reaches 140km inland (Spiggs and Amy,2011). Generally coastal saline flats are frequently home for migratory birds. Some 75 species of birds' flock to this coast hence Birdlife International has included the park under the category of "Important Bird Area".

The Dorob National Park is home to the Damara tern (*Sternula balaenarum*) a breeding seabird which is endemic to Namibia hence considered a flagship species of the coastal area and this coastal ecosystem serves as its breeding grounds. During the site visit no animals were seen on the project area, however vertebrate animals are more common in spaces with such climatic conditions and sand texture. A possibility of unseen animals could be that most are in hibernation. Desert conditions are suitable for habitats of some reptiles (geckos and snakes) and insects (beetles), the project area however has low richness in mammal species.

A desktop study conducted for the Kuiseb Delta and Dude Belt between 20 and 24 May 2011 on the vertebrate fauna (e.g., reptiles, amphibians, mammals and birds) expected to occur in the general area defined as the Kuiseb River delta and dune belt area between Walvis Bay and Swakopmund revealed that; the central coastal region and the Walvis Bay area in particular, is regarded as "relatively low" in overall (all terrestrial species) diversity (Mendelsohn et al. 2002). Overall terrestrial endemism in the area on the other hand is "moderate to high" (Mendelsohn et al. 2002).

The overall diversity and abundance of large herbivorous mammals (big game) is viewed as "low to medium" with 1-2 species while overall diversity of large carnivorous mammals (large predators) is determined at 4 species with brown hyena being the most important with "medium" densities expected in the area (Mendelsohn et al. 2002).

It is estimated that at least 54 reptile, 7 amphibians, 42 mammal and 182 bird species (breeding residents) are known to or expected to occur in the general/immediate Walvis Bay/Swakopmund area of which a high proportion are endemics. **Appendix C** Provides a list of species that could potentially occur in the general area.

The high percentage of endemic reptile species (50%) known and/or expected to occur in

the general Walvis Bay/Swakopmund area underscores the importance of this area for reptiles. Reptile species of concern are the 2 thread snakes (*Leptotyphlops occidentalis* and *L. labialis*) as well as the sand burrowing/dwelling species such as Bitis peringueyi as well as the high proportion (81%) of endemic gecko (e.g., *Pachydactylus species*) species of which very little is known about their ecological role and actual status in Namibia. The seemingly barren sandy dune and gravel plain areas around Walvis Bay/Swakopmund are host to a variety of reptile fauna not often expected and/or acknowledged.

Amphibians are generally not viewed as extremely important in saline coastal areas which are marginal habitat for most amphibians. Although 43% of the amphibians expected to occur in the general area are endemic to Namibia, they are expected to occur further inland – i.e. the Kuiseb and Swakop Rivers and rocky outcrops with temporary pools associated with these landforms. The endemic Phrynomantis annectens is probably the amphibian of greatest concern in the area although it occurs widespread throughout large parts of Namibia.

Endemic mammal species of concern include the mole *Eremitalpa granti* and the two bats *Laephotis namibensis* and *Cistugo seabrai* as well as the Hairy-footed Gerbils (*Gerbillurus sp*.). Both bats are very poorly known with only a few records from the general area making them particularly important. The predator of concern is *Hyaena brunnea* which is classified locally as Insufficiently Known, probably Vulnerable; with an international status of Vulnerable (SARDB 2004, IUCN 2010).

9.2.1.1. Birds

The high proportion of endemic birds of which 50% (7 of 14 species) are endemic to Namibia and which are known and/or expected to occur in the general Walvis Bay/Swakopmund area is important and should be taken into consideration regarding development in the area. Species of greatest concern include all the endemics (e.g. Dune and Gray"s Larks) as well as *Morus capensis* (Vulnerable – IUCN 2010), *Phalacrocorax capensis* (Near threatened – IUCN 2010), *Phalacrocorax neglectus* (Endangered – IUCN 2010), *Phalacrocorax coronatus* (Near threatened – IUCN 2010), *Phoenicopterus minor* (Endangered – IUCN 2010), *Haematopus moquini* (Near threatened – IUCN 2010), *Charadrius pallidus* (Near threatened – IUCN 2010) and *Sterna balaenarum* (Near threatened – IUCN 2010). Furthermore, the Damara Tern (Sterna balaenarum) which breeds in the gravel plain and sandy beach areas in the general area is the species possibly most threatened by development in the immediate Walvis Bay/Swakopmund area.

9.3. Flora

Vegetation type as well as land coverage changes inland, land coverage decreases between 1% to 5% depending on the distance from the coastal zone. Vegetation that occurs simultaneously on the coastal saline adapt to halophytic conditions such as semi-deserts, the Inland Foggy Zone which includes the project area, contains shrub communities (*Arthaerua leubnitiziae)* and lichen fields (*Caloplaca elegantissima-Xanthoparmelia walteri), p*lants like Fensteralgen are more common under transparent stones such as quartz which also has a distinctive role in the fixation of minerals and soil formation (Cunningham, 2010). The vegetation in the area includes the pencil bush, dollar bush, and shepherd tree, along with some of the lichen fields, supporting the wildlife residing in the national park borders.

The site falls within the desert biome, which is characterized by central and southern desert vegetation type (Figure *6*). The Namib Desert Biome makes up a large proportion (32%) of the land area with parks in this biome making up 69% of the protected area network or 29.7% of the biome (Barnard, 1998). The vegetation in the Desert Biome is characterized by the dominance of therophytes which persist in the form of seeds during unfavorable conditions (UCCB, 2011).

According to Mendelsohn et al. (2002) the dominant vegetation structure in the Southern Desert is grassland and dwarf shrubland. These Namib grasslands, mainly annual species are very sparse, but nevertheless still dominate the little vegetation that grows around the area. The average plant production is low with 0-5% variation in green vegetation biomass. The overall plant diversity (all species) in the general Walvis Bay/Swakopmund area is estimated as <50 species (Mendelsohn et al. 2002). Burke (2003) estimates that over 400 species – 10% of the flora of Namibia occur in the central Namib and although it has not been identified as a center of endemism, it is dominated by endemics such as *Arthraerua leubnitziae*. The greatest variants affecting the diversity of plants are habitat and climate. Plant endemism is viewed as "medium" with between 1-15 endemics expected from the general Walvis/Swakopmund area (Mendelsohn et al. 2002).

Literature further reveals that the eastern inland sections pro-Namib are dominated by *Stipagrostis obtusa* and *Stipagrostis ciliata* after rains while the plains closer towards the coast are dominated by *Mesembryanthemum cryptanthum* (Giess 1971). An interesting feature of the coastal areas is the extensive formation of gypsum crusts in the soil as a result of sulphur

releases during upwelling events in the ocean in the past. These substrates support the most divers lichen fields in the world (Burke 2003). The lichen fields are the areas of concern and specific species e.g., endemics (*Arthraerua leubnitziae* etc.). The under protected Welwitschia mirabilis and economically important species such as *Acanthosicyos horridus* (Burke 2003).

9.3.1. Lichen

Lichen diversity within Dorob National Park is exceptionally high, with at least 65 species from 33 genera expected to occur across the broader park landscape (Dorob National Park Management Plan, 2021). Approximately 23 species (34 percent) are endemic to Namibia and a further seven species (10 percent) are near endemic, shared only with the Namib Desert south of the Orange River in South Africa. As a whole, Dorob National Park supports about 37.4 percent of Namibia's 174 known lichen species, highlighting the conservation importance of the area.

However, the borrow pit footprint east of Swakopmund lies on flat gravel plains where lichen development is sparse. During the site visit, no well-developed lichen fields or sensitive lichen mats were found within or immediately adjacent to the proposed extraction area.

9.4. Key Biodiversity Areas and Ecological Considerations Near the Borrow Pit

Although Dorob National Park contains several ecologically sensitive zones, none of the major biodiversity hotspots fall within or directly adjacent to the borrow pit coordinates. The following ecological features are relevant to the local area.

i. Gravel Plains Ecosystem (Local Habitat)
   The borrow pit is situated entirely within a gravel plain habitat, typical of the inland Namib. This habitat supports low vegetation cover, primarily hardy pioneer species. No rare, protected, or endemic plant populations were recorded during the assessment. The habitat is widespread and resilient to shallow, temporary disturbance.

ii. Ephemeral Drainage Features (Regional)
   Shallow ephemeral drainage forms associated with inland flows of the Swakop River occur

in the broader landscape, but none intersect the borrow pit footprint. The site was selected to avoid surface flow lines and prevent disruption of natural hydrology.

iii. Lichen Crusts (Scattered Occurrence)

Small, scattered lichen patches are typical of the Namib gravel plains. At the project site, these are minimal and not part of any designated lichen field.

iv. Heritage and Archaeological Considerations

No heritage features were recorded within the borrow pit footprint east of Swakopmund. Although the Erongo Region is rich in archaeological resources, the site visit confirmed no graves, cairns, stone structures or artefact concentrations within the proposed area. A Chance Finds Procedure will nonetheless be implemented to ensure compliant handling of any unexpected discoveries.

The proposed development is unlikely to threaten any habitat of high ecological importance. All developments carry some degree of environmental risk, but early identification of key flora species and potentially sensitive habitats, combined with the application of appropriate mitigation measures, can significantly reduce these impacts. Within the proposed borrow pit area, no sensitive habitats were identified, and the plant species recorded are widespread across the central Namib rather than restricted to the project footprint. This indicates that the development is unlikely to threaten any habitat of high ecological importance.

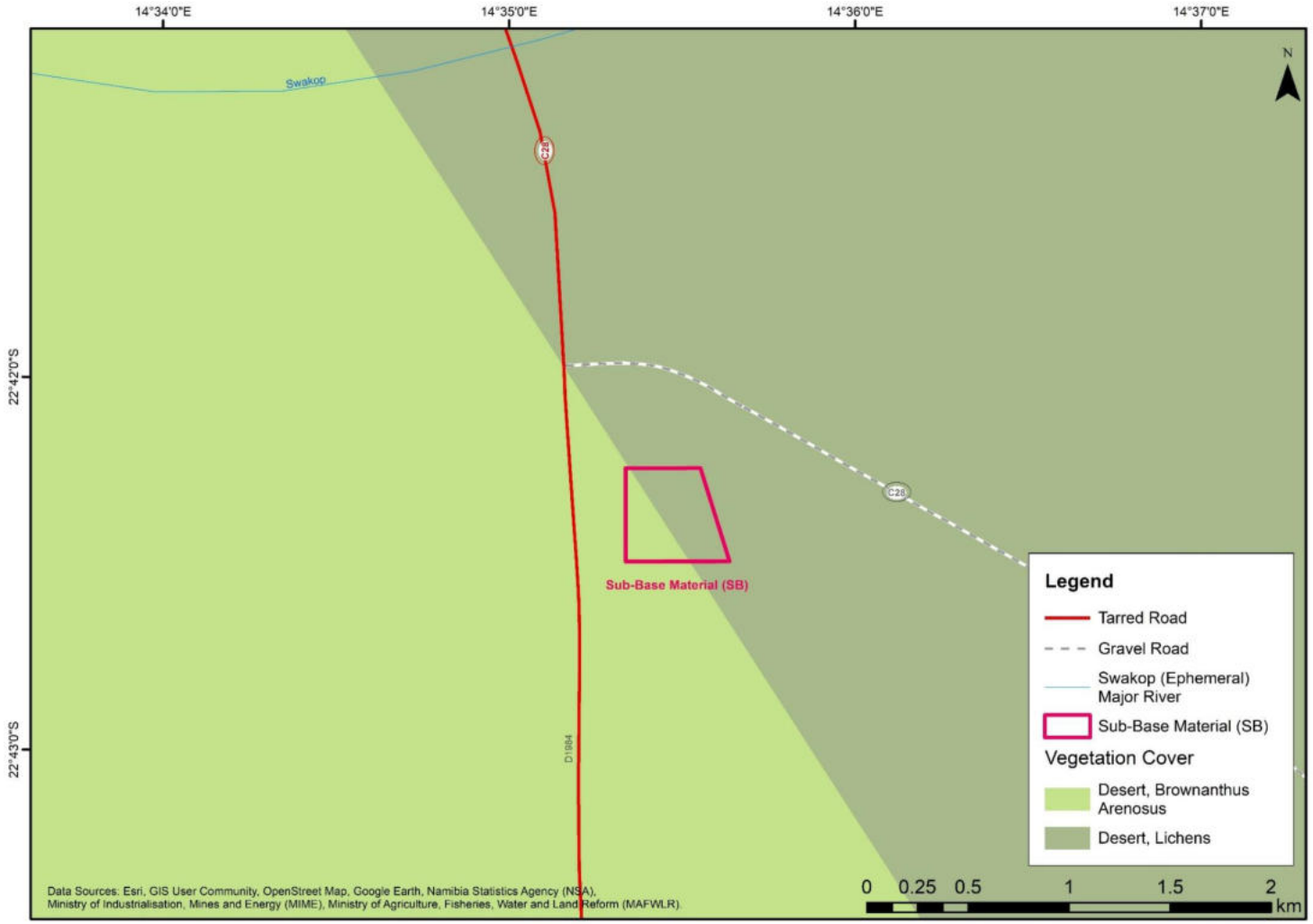


Figure 6: Vegetation type of the proposed area

9.5. Hydrogeology and Geology

The project area lies within the Erongo Basin, which supplies water to key coastal towns such as Swakopmund. Groundwater remains an important resource in this basin, supported by several piped distribution schemes that transfer both surface and groundwater to surrounding settlements. Pipelines associated with these schemes are visible near the project site. For this project, water requirements are minimal and will be limited to domestic use supplied by Swakopmund.

Hydrogeological, the coastal plain has low-yield aquifers and is characterised by poor-quality or saline groundwater, a condition common to much of Namibia's coastal fringe (Christelis & Struckmeier, 2001/2011). The shallow geology does not support substantial groundwater storage, and the risk of intersecting meaningful aquifers during a small-scale borrow pit operation is extremely low.

The regional geology is dominated by the Damara Sequence, with the surface comprising thin layers of Cenozoic superficial deposits, including colluvium, alluvium and fluvial–marine sediments. Beneath these lie Damara Granite intrusions overlain in places by deposits of the Kalahari Group. The dominant material types in the immediate project area are loose sand, calcrete and weathered granite, all of which occur at shallow depths consistent with surface-level borrow pit operations, Figure 7.

Coastal environments around Swakopmund are also known for their corrosive conditions, driven by fog moisture, high chloride content, airborne salts and elevated humidity. These conditions do not influence shallow borrow pit extraction but are relevant for equipment maintenance and material handling.

Importantly, the geology of the site supports the presence of naturally occurring construction materials that are already widely utilised in the region, particularly high-quality sands from the Swakop River system used for concrete production and brick manufacturing. The project area contains similar shallow deposits suitable for sub-base extraction without the need for deep excavation or blasting.

Given the shallow depth of extraction, absence of groundwater interaction, and the non-aquifer nature of the geological formations present, the proposed borrow pit poses no

significant hydrogeological risk, and impacts remain limited, localised and easily manageable.

9.6. Soil

The project area falls within the Gypsisols soil group, dominated by petric Gypsisols and localised rock outcrops (Figure 9). Soil in the coastal Namib is typically characterised by very low organic carbon content, low macronutrient levels and minimal biological activity. As a result, vegetation growth is sparse, and soil structure remains weak. Poor soil quality in this area is closely linked to the region's aridity, where extremely limited moisture restricts clay development and inhibits chemical weathering. Instead, soil formation is driven mainly by physical weathering processes, including wind abrasion, temperature fluctuations and sediment transport.

Fog plays an important role in the weathering process by depositing marine salts onto soil surfaces, contributing to the gradual breakdown of mineral particles. The broader Namib landscape consists of a mosaic of rocky plains and dune systems, with soil that have low water-holding capacity and limited cohesion. Around Swakopmund, the most common soil type is the gypsum–gravel surface, a hard, brownish-white crust ranging from 30 to 90 cm in thickness. Along the coastal belt, gypsum acts as a cementing agent for sand and gravel. These deposits formed during the Tertiary and Pleistocene periods through interactions between calcrete formations and sulphur-rich marine environments. Studies indicate that more than 90% of gypsum-bearing sediments occur within roughly 50 km of Swakopmund (Schreiber & Schneider, n.d.).

The soil environment in the project area is therefore naturally harsh, nutrient-poor and slow to develop, with limited ecological sensitivity due to low biological productivity. Against this backdrop, the proposed activity represents a very low-intensity disturbance. Soil will be affected only through shallow surface scraping, consistent with small-scale borrow pit operations. Extraction does not require deep excavation or removal of subsoil profiles. Because disturbance is shallow, localised and temporary, natural wind-driven processes quickly soften scrape marks and assist rehabilitation. With progressive levelling and topsoil replacement, the soil surface is expected to revert to its typical desert appearance within a short period.

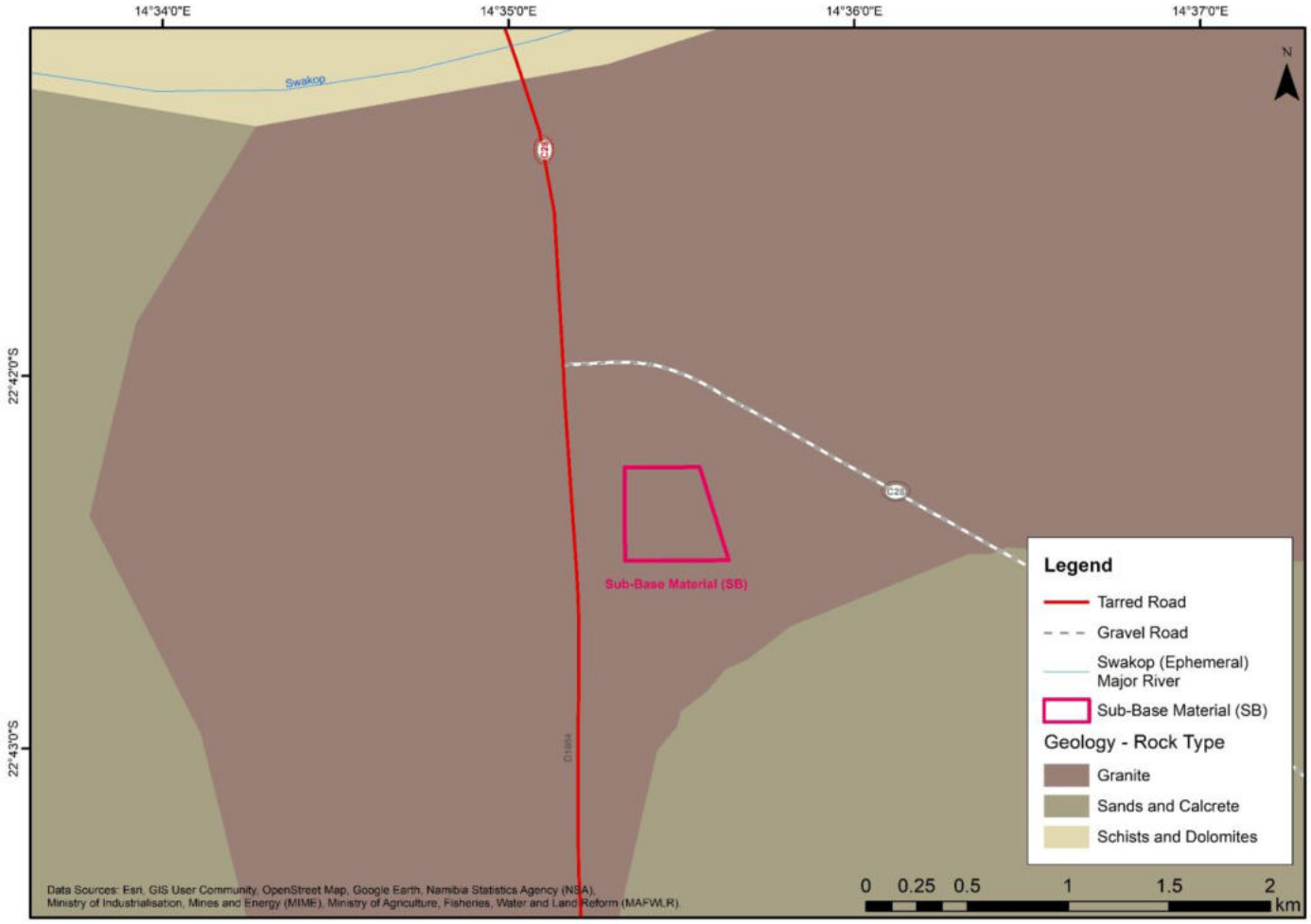


Figure 7: Geology of the proposed area

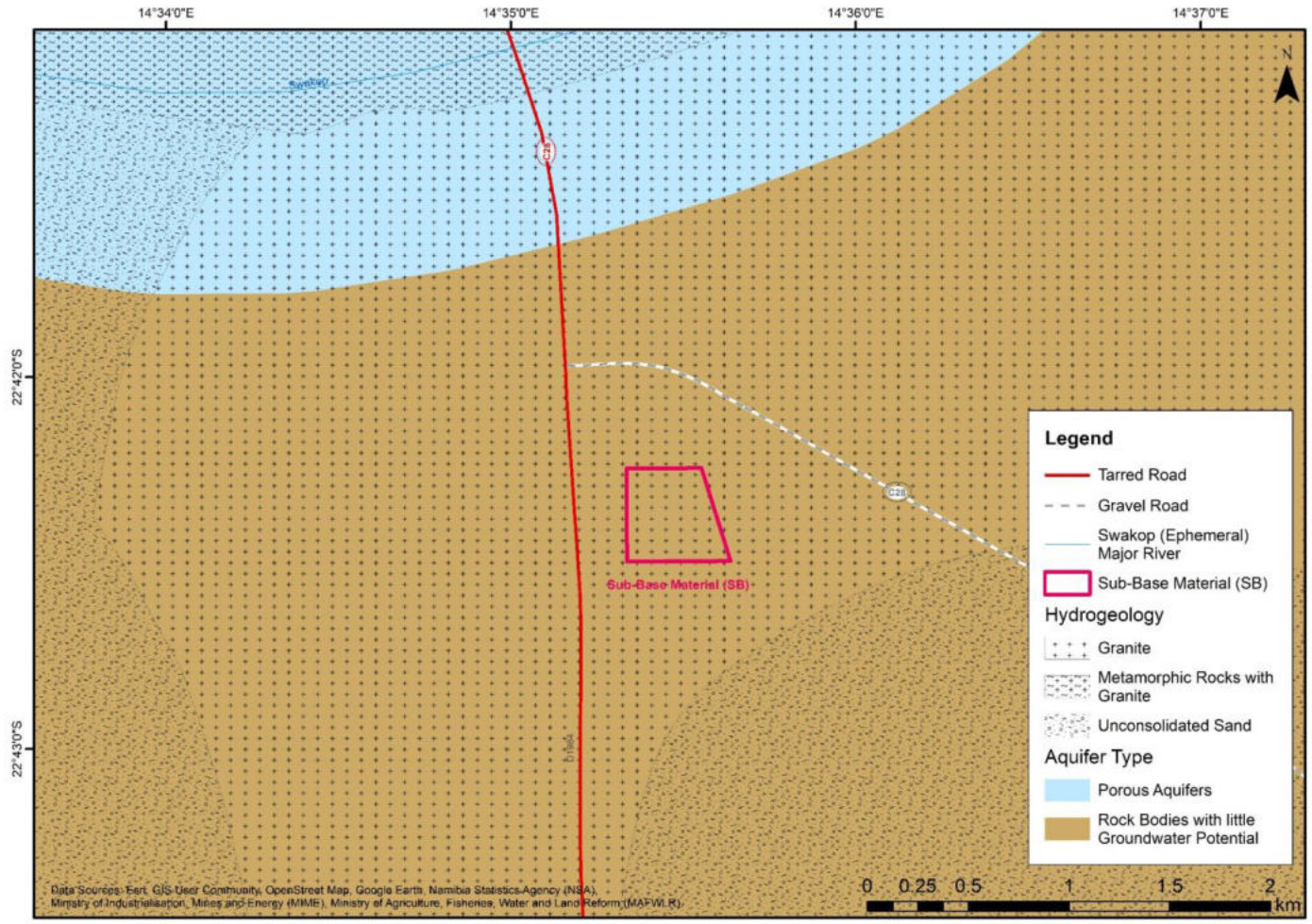


Figure 8: Hydrology of the proposed area

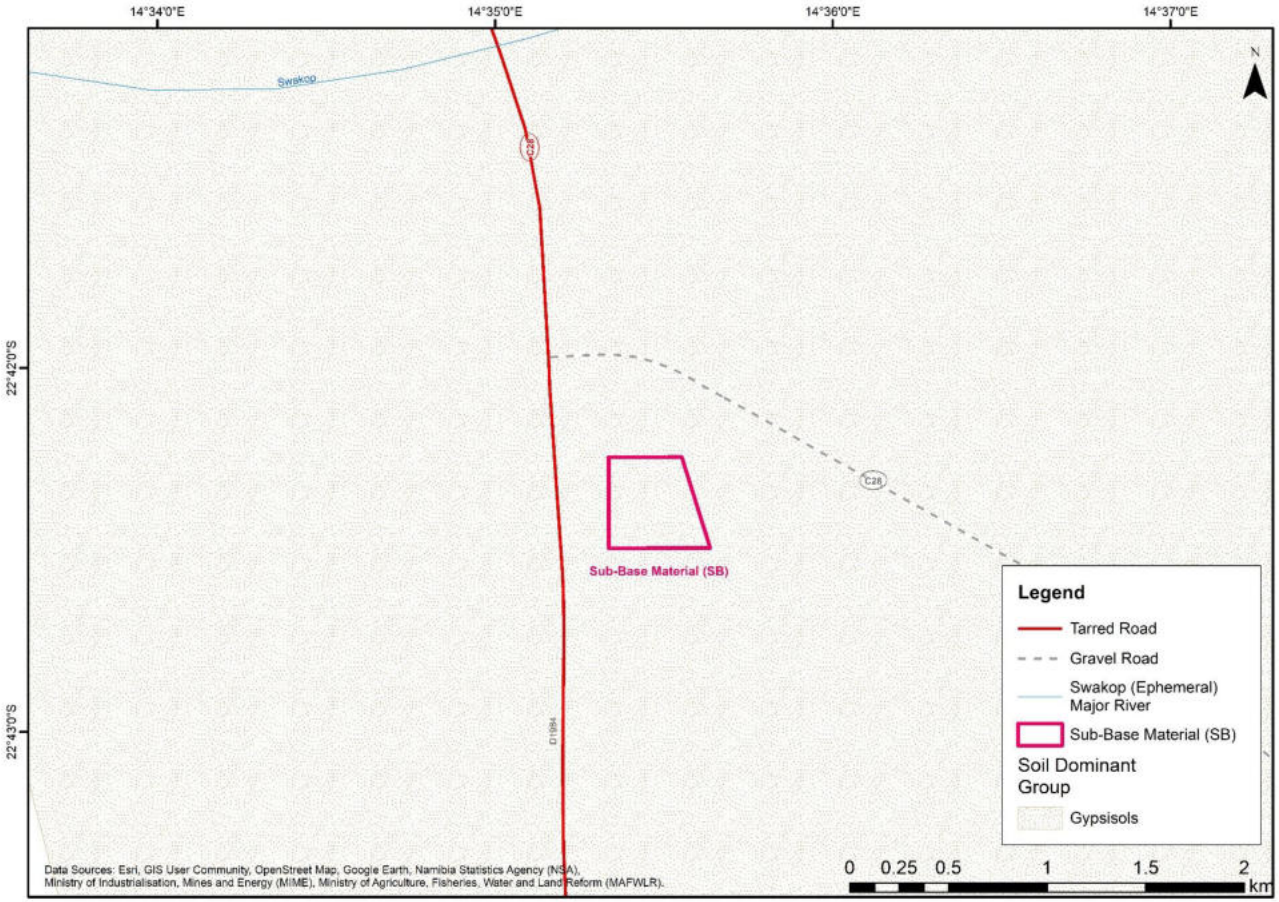


Figure 9 – Dominant soil type in the proposed project area

9.7. Socio-Economic setting

9.7.1. Regional Profile

Swakopmund is one of Namibia's principal coastal towns and a major tourism destination, known for its historic architecture, recreational activities, and unique setting between the Namib Desert and the Atlantic Ocean. It serves as the administrative capital of the Erongo Region and is well connected through the B2 national road, rail links to Windhoek, and the Swakopmund Airport. Together with Walvis Bay, the town forms an important economic and logistics hub, supported by well-developed transport infrastructure, reliable telecommunications, and established utility networks.

The local economy is driven mainly by tourism, fishing, and service industries, with additional support from mining activities in the wider region. Socioeconomic indicators show that the Erongo Region is one of the more affluent regions in Namibia, with relatively high per capita income levels and a low proportion of households experiencing severe food expenditure stress compared to national averages (NSA, 2011).

A review of the National Heritage Council and environmental information service databases indicates that no known heritage or archaeological sites occur within the proposed project area. Should any heritage resources be encountered during project activities, chance find procedures will be implemented in accordance with the National Heritage Act, 2004.

The proposed project area shows evidence of prior disturbance, which reduces the likelihood of impacts on undisturbed environmental or cultural resources.

9.7.2. Tourism and Stakeholder Activities in the Area

The project area lies within a broader landscape that supports various forms of outdoor recreation, adventure tourism and conservation-based activities typical of the central Namib. Dorob National Park is one of Namibia's most visited coastal protected areas, drawing both local and international tourists. Tourism activities contribute significantly to the local economy of Swakopmund and rely on the area's open desert scenery, accessible dune systems and unique biodiversity.

A range of tourism operators and recreational stakeholders conduct activities in the wider region, including:

- Guided desert tours and ecological interpretation trips
- Quad biking and off-road recreational driving in designated use zones
- Sandboarding and Dune Adventure Sports
- Photographic tours focusing on landscape, birds and deserted wildlife
- Stargazing and space science tourism due to excellent night sky conditions
- Commercial events, filming and small group excursions
- Cultural and historical tours linked to Swakopmund's heritage

These activities generally take place along established tourism corridors, recreational zones and designated dunes closer to Swakopmund and the coastal road network.

The proposed borrow pit is small in scale, involves shallow, low-impact extraction, and operates within a defined polygon away from major tourist routes. No scenic dune features will be altered, and the operation avoids areas commonly used for sandboarding or guided tours. Access will follow existing tracks, preventing unnecessary disturbance to recreational landscapes.

10. STAKEHOLDER ENGAGEMENT

10.1. Public participation

The public participation process was undertaken in accordance with the Environmental Management Act (2007) and the EIA Regulations (2012). Its purpose is to ensure that Interested and Affected Parties (I&APs) have an opportunity to receive information about the proposed project, raise concerns, and contribute constructively to the assessment.

A formal comment period of 21 days was provided, running from Monday, 24 November 2025 to Monday, 15 December 2025. During this period, several methods were used to notify stakeholders and invite participation.

10.1.1. Newspaper Adverts

Public notices were published once per week for two consecutive weeks in widely circulated national newspapers. The first advertisement appeared in the Market Watch section, which covers the Allgemeine Zeitung, Namibian Sun, and Republikein. The second advertisement was scheduled for publication on Monday, 1 December 2025.

Tear sheets of these notices are provided in Appendix B.

10.1.2. Site notice

Site notices were placed at strategic, publicly accessible locations around Swakopmund and the project area, including:

- Swakopmund Municipality notice board
- Erongo Regional Council notice board
- Goanikontes
- Nonidas
- Project site boundaries

These notices remained in place for the duration of the comment period. Photographs of the posted notices are included in Appendix B.

10.1.3. Public Meeting

A public meeting was held on 16 December 2025 to provide stakeholders with an opportunity to express their interests and raise any concerns or issues requiring in person discussion. As attached EIA report.

10.1.4. Stakeholder participation and recommendation

Stakeholder participation during the public meeting held on 16 December 2025 was constructive and outcome oriented. Interested and Affected Parties representing the tourism sector, environmental and biodiversity interests, cultural and heritage specialists, and the local community actively engaged in discussions on the proposed borrow pit operations.

Key concerns focused on the potential impacts of dune sand extraction on tourism routes, landscape aesthetics, and sense of place within Dorob National Park. While the sub-base and river sand extraction sites were generally accepted, strong opposition was expressed to the initially proposed dune sand site. This feedback directly informed the process, resulting in collaboration between the consultant, the proponent, and tourism representatives to identify an alternative dune sand extraction site shortly after the meeting. Additional procedural

concerns, including communication gaps and the need for wider consultation, were acknowledged and addressed. Further written comments received after the meeting, particularly from the Municipality of Swakopmund, highlighted cumulative impacts, tourism considerations, and alignment with existing environmental management frameworks. All stakeholder inputs were formally recorded and will be incorporated into the Environmental Impact Assessment and Environmental Management Plan to ensure that identified concerns are mitigated and managed appropriately.

11. Evaluation of Impacts

11.1. Assessment procedure

This section evaluates the potential environmental and social impacts associated with the proposed borrow pit operations within Dorob National Park. The assessment considers Planning and Site Selection, Site Establishment, Operational phase, and Rehabilitation and Closure phases, and includes direct, indirect and cumulative impacts in relation to other land uses in the area such as tourism routes, recreational activities, existing tracks and historic disturbances.

Impact identification is based on:

- Establishing baseline environmental conditions of the gravel plains areas near Swakopmund.
- Understanding the likely landscape changes if the activity proceeds.
- Analysing the operational footprint in detail to predict consequences.
- Identifying significant impacts that may occur and proposing feasible mitigation measures.

11.2. Sources of Impacts

11.2.1. Likely Sources of Positive Impacts

The proposed borrow pit operations are small in scale but still generate several positive environmental and socio-economic contributions at local and regional level. Key positive impacts include:

- Supports road and infrastructure development in Swakopmund and the wider Erongo Region
- Reduces haul distances, fuel use, emissions, and road wear through local material sourcing
- Creates short to medium term local employment and income opportunities
- Provides skills development in equipment operation, safety, and environmental management
- Supports local contractors and service providers

- Demonstrates low impact, rehabilitated extraction compatible with Dorob National Park objectives

11.2.2. Likely Sources of Negative Impacts

Table 1: The key sources of potential negative impacts associated with the proposed borrow pit and its supporting activities, by project phase.

Project Phase	Project Activity	Likely Impact
Planning and Site Selection	Selection of borrow pit footprint on gravel plains	Localised land-use change within Dorob National Park; temporary loss of sparse vegetation and surface habitat
	Selection of access route from C28 and existing track	Potential visual and traffic impact if access is not confined to existing approved routes
Site Establishment	Demarcation of footprint and access track	Soil disturbance and potential compaction within the demarcated area
	Establishment of temporary site facilities (fuel storage, maintenance area, toilets, waste point)	Localised risk of soil contamination and visual clutter if not properly managed
Operational Phase – Extraction	Surface scraping and loading of sub-base material	Disturbance of gravel plain surface and sparse vegetation; temporary loss of microhabitat; minor displacement of small fauna
	Movement of machinery and tipper trucks within the site	Dust generation; noise; disturbance to nearby recreational users and tourism viewpoints if unmanaged
	Haulage of material along C28 and existing tracks	Increased traffic and dust along existing routes; potential safety risks if speed control is not enforced
	Presence of machinery and stockpiles	Temporary visual impact within the park landscape
Operational Phase – Supporting Activities	Worker presence on site	Potential littering, informal footpaths and disturbance if housekeeping and access control are poor
	Interaction with nearby tourism and recreation users	Possible perception of conflict with tourism experience (noise, dust, visual intrusion) if coordination and communication are inadequate
Rehabilitation and Closure	Recontouring and topsoil spreading	Short-term dust and disturbance during final shaping of surfaces
	Removal of temporary infrastructure and waste	Risk of residual contamination or litter if de-camping is poorly managed
	Post-closure landscape condition	Risk of uneven surfaces or small depressions if rehabilitation is incomplete, with potential safety and aesthetic implications

The following methodology is applied to the predication and assessment of impacts and risks. Potential impacts and risks have been rated in terms of the direct, indirect, and cumulative where:

Status	Whether the impact/risk on the overall environment will be • **Positive -** Environment overall will benefit from the impact/risk; • **Negative -** Environment overall will be adversely affected by the impact/risk; • **Neutral -** Environment overall not be affected.

Direct impacts	Impacts are directly caused by the activity and usually occur at the same time and place of the activity. These impacts are often related to the construction, operation or maintenance of an operation and are often obvious and quantifiable.
Indirect impacts	These types of impacts include all the potential impacts that are not evident immediately when the activity is carried out, or which occur at a different place due to the activity.
Cumulative impacts	Impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present, or reasonably foreseeable future activities.

In addition to the above, the impact assessment methodology includes the following aspects:

Spatial Extent	The size of the area that will be affected by the impact: **Site specific -** Only within the site boundaries **Local -** limited to within 15 km of the area **Regional -** limited to ~100 km radius **National -** limited to within the borders of Namibia **International -** extending beyond Namibia's borders

Consequence	The anticipated consequence of the impact: • **Extreme -** Environmental functions and processes are altered such that they permanently cease); • **Severe -** Environmental functions and processes are altered such that they temporarily or permanently cease); • **Substantial -** environmental functions and processes are altered such that they temporarily or permanently cease); • **Moderate -** Environment continues to function but in a modified manner); or • **Slight -** No natural systems/environmental functions, patterns, or processes are affected.

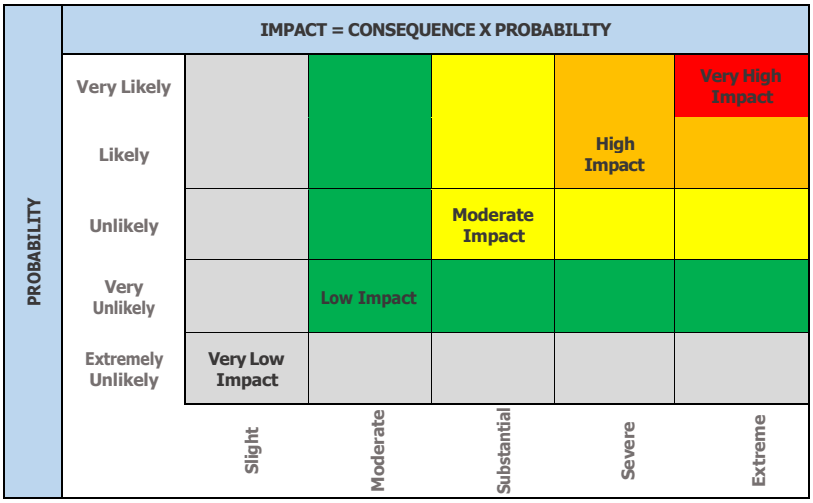
Duration	The timeframe during which the impact/risk will be experienced
	• **Very short term** - instantaneous; • **Short term** - less than 1 year; • **Medium term** - 1 to 10 years; • **Long term** - The impact will occur for the project duration • **Permanent -** The impact will occur beyond the project decommissioning.

Reversibility of the Impacts	The extent to which the impacts/risks are reversible assuming that the project has reached the end of its life cycle (decommissioning phase)
	• **Yes** - High reversibility of impacts (impact is highly reversible at end of project life); • **Partially -** Moderate reversibility of impacts; or • **No -** Impacts are non-reversible (impact is permanent).

Using the criteria above, the impacts will further be assessed in terms of the following:

Probability	The probability of the impact/risk occurring
	• Very likely; • Likely; • Unlikely; • Very unlikely; and • Extremely unlikely.

To determine the significance of the identified impact/risk, the consequence is multiplied by probability. This approach incorporates internationally recognized methods from the IPCC (2014) assessment of the effects of climate change and is based on an interpretation of existing information in relation to the proposed activity. The significance is then rated qualitatively as follows against a predefined set of criteria (i.e., probability and consequence) as indicated below:



Where:

Significance	Will the impact cause a notable alteration of the environment? • **Very low (5) -** The risk/impact may result in very minor alterations of the environment and can be easily avoided by implementing appropriate mitigation measures and will not have an influence on decision-making. • **Low (4) -** The risk/impact may result in minor alterations of the environment and can be easily avoided by implementing appropriate mitigation measures, and will not have an influence on decision making; • **Moderate (3) -** The risk/impact will result in moderate alteration of the environment and can be reduced or avoided by implementing the appropriate mitigation measures, and will only have an influence on the decision-making if not mitigated; • **High (2) -** The risk/impact will result in major alteration to the environment even with the implementation on the appropriate mitigation measures and will have an influence on decision making); and • **Very high (1) -** The risk/impact will result in very major alteration to the environment even with the implementation on the appropriate mitigation measures and will have an influence on decision making.

Confidence	The degree of confidence in predictions based on available information and specialist knowledge
	• **Low -** Based on the availability of specialist knowledge and other information • **Medium -** Based on the availability of specialist knowledge and other information • **High -** Based on the availability of specialist knowledge and other information

Impacts are evaluated for the construction and operation phases of the development. The assessment of impacts for the decommissioning phase is not presented in detail this document, as there is limited understanding at this stage of what this might entail. Impacts have been evaluated with and without mitigation in order to determine the effectiveness of mitigation measures on reducing the significance of a particular impact. The Assessment is presented in the following section and further in the Environmental Management Plan (EMP).

12. IMPACTS ASSESSMENT

12.1. Pre-Operation Phase (Planning and Site Preparation)

Impact Pathway	Nature of Impact	Spatial Extent	Duration	Consequence	Probability	Reversibility	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Confidence
Footprint demarcation and minor site establishment	Local disturbance to sparse vegetation and surface crust	Site-specific	Short-term	Slight	Likely	Partially	Moderate	Limit clearing to approved footprint; avoid off-track movement; brief workers on sensitive desert surfaces	Low	High
Use of existing access tracks	Local soil compaction from vehicles	Local	Short-term	Slight	Likely	Yes	Low	Strict use of existing C28 tracks; no creation of new routes	Very Low	High
Temporary facility setup	Small risk of litter or minor pollution	Site-specific	Short-term	Slight	Likely	Yes	Moderate	Provide waste bins; no fuel stored during this phase; implement housekeeping rules, Take in – take out policy	Very Low	High
Pre-operation employment	Job creation for local workers	Local	Short-term	Slight	Very Likely	Yes	Low Positive	Prioritize local labour where possible	Moderate Positive	Medium

Impact Pathway	Nature of Impact	Spatial Extent	Duration	Consequence	Probability	Reversibility	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Confidence
Visual presence of workers and vehicles	Temporary visual intrusion	Very Local	Very Short-term	Slight	Likely	Yes	Moderate	Keep footprint compact; remove all temporary materials at end of phase	Low	High

12.2. Operation Phase (Extraction, Loading, Hauling)

Impact Pathway	Nature of Impact	Spatial Extent	Duration	Consequence	Probability	Reversibility	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Confidence
Shallow scraping to 1.5 m	Loss of habitat for common desert species	Site-specific	Medium-term	Moderate	Likely	Partial	Moderate	Keep excavation shallow; restrict activity to 11.7 ha footprint; avoid any lichen patches if encountered	Low	High
Movement of machinery	Soil compaction, disturbance	Local	Medium-term	Moderate	Likely	Yes	Moderate	Restrict movement to working area; no new tracks	Low	High
Shallow scraping and surface disturbance interacting with natural aeolian processes	Temporary alteration of surface texture and redistribution of loose sediments through wind-driven sand movement		Short- to medium-term	Low to moderate	Likely	Yes (high)	Low to Moderate	Limit excavation depth to a maximum of 1.5 m and maintain shallow, even surfaces Implement progressive reshaping of worked areas to avoid abrupt edges or depressions Avoid creating fine,		

Impact Pathway	Nature of Impact	Spatial Extent	Duration	Consequence	Probability	Reversibility	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Confidence
								unconsolidated stockpiles exposed to strong winds Allow natural aeolian processes to assist in surface smoothing following rehabilitation Suspend activities during extreme wind conditions where excessive sand movement or dust is observed		
Loading and hauling	Dust generation affecting workers and local vegetation	Local	Medium-term	Moderate	Very Likely	Partial	High	Water suppression when needed; avoid operations during extreme winds; PPE use	Moderate	High

Impact Pathway	Nature of Impact	Spatial Extent	Duration	Consequence	Probability	Reversibility	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Confidence
Machinery operation	Noise disturbance	Local	Short-term	Slight	Likely	Yes	Low	Maintain equipment; avoid after-hours operation; provide ear protection	Very Low	Medium
Temporary stockpiles	Increased dust; visual impact	Site-specific	Short-term	Slight	Likely	Yes	Low	Keep stockpiles low; stabilize with moisture if needed	Very Low	High
Waste generation	Litter and minor pollution	Local	Short-term	Moderate	Likely	Yes	Moderate	Implement take-in take-out waste policy; dispose at Swakopmund site	Low	High
Visual impact of operations	Visible machinery on gravel plain	Local	Short-term	Slight	Likely	Yes	Moderate	Keep operations compact and low profile	Low	High
Employment during operations	Increased local jobs	Regional	Medium-term	Moderate	Very Likely	Yes	Moderate Positive	Employ local operators and drivers	High Positive	Medium

Commented [EA1]: Client to confirm if they will stockpile

Impact Pathway	Nature of Impact	Spatial Extent	Duration	Consequence	Probability	Reversibility	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Confidence
Interaction with tourists and tour operators	Temporary disturbance to visual experience and sense of wilderness	Local	Short-term	Slight	Possible	Yes	Moderate	Limit operational footprint; avoid peak tourism times where feasible; maintain orderly site appearance	Low	Medium

12.3. Rehabilitation and Closure Phase

Impact Pathway	Nature of Impact	Spatial Extent	Duration	Consequence	Probability	Reversibility	Significance Before Mitigation	Mitigation Measures	Significance After Mitigation	Confidence
Recontouring and topsoil spreading	Restoration of natural landform	Site-specific	Long-term	Moderate	Very Likely	Yes	Moderate Positive	Shape area to match surroundings; smooth edges; return topsoil	High Positive	High
Removal of temporary facilities	Elimination of visual clutter	Site-specific	Short-term	Slight	Unlikely	Yes	Low Positive	Full site clean-up and waste removal	Moderate Positive	High
Final shaping for aeolian restoration	Promotes natural recovery via wind action	Local	Long-term	Moderate	Likely	Yes	Moderate Positive	Maintain natural micro-topography	High Positive	High
Residual soil compaction	Slower recovery of some sections	Site-specific	Short to Medium-term	Slight	Likely	Yes	Low	Rip compacted areas where appropriate	Very Low	High
Post-closure visual character	Restored desert appearance	Local	Long-term	Moderate	Very Likely	Yes	Moderate Positive	Ensure even blending with gravel plain	High Positive	High

13. Assessment of the Overall Significant Impacts

13.1. Pre-Operation (Planning and Site Preparation)

This phase consists of site demarcation, minimal surface clearing, establishing a small temporary working area, and accessing the site using existing tracks from the C28. The baseline assessment shows that the borrow pit footprint is already highly disturbed, with scattered rubble, historical excavation marks, vehicle tracks, and an absence of sensitive flora, lichen fields, drainage lines, or key biodiversity features.

Because the landscape is largely bare gravel plain with sparse vegetation, disturbances during the pre-operation phase are expected to be very limited, temporary, and fully reversible. Typical impacts include minor surface disturbance, light dust, and short-term visual activity.

Mitigation Measures:

- Restrict activity to the approved footprint and avoid unnecessary track creation.
- Maintain clear demarcation of the 11.7 ha area to prevent encroachment into undisturbed terrain.
- Apply a strict housekeeping rule so that temporary structures, waste, and markings are removed before operations begin.
- Use existing access routes from the C28; no new roads are required.
- With these measures in place, no significant ecological or social impacts are expected during this phase, and all minor disruptions are quickly reversible.

13.2. Operation Phase (Extraction, Loading and Hauling)

This is the primary phase where most project-related impacts originate. The extraction method is a shallow, light-touch scraping process, limited to a maximum depth of 1.5 m, with no blasting, no chemicals, and no water abstraction on-site.

Habitat and Biodiversity

The site contains no sensitive habitats, no key biodiversity areas, and no protected vegetation or lichen fields. Vegetation is sparse and widespread across the broader central Namib, meaning removal of individuals within the footprint does not affect species viability.

Key impacts include short-term disturbance and temporary displacement of small fauna. Because habitats in the gravel plain recover through natural wind-driven processes, these impacts remain low in magnitude.

Mitigation Measures:

- Avoid operations outside the demarcated area.
- Maintain shallow scraping to preserve natural microtopography.
- Inspect working areas for fauna before operations.

Soil Disturbance, Erosion, and Landform Alteration

Extraction removes only thin layers of sub-base material and does not create deep pits. Without mitigation, the changes to surface texture may accelerate localized erosion or leave sharp edges.

Mitigation Measures:

- Progressive rehabilitation: recontour and level every completed section.
- Replace stockpiled topsoil over worked areas as soon as possible.
- Smooth edges and avoid artificial depressions.

These measures convert the active work areas back into natural-looking gravel plains. Residual impact is Low.

Dust and Air Quality

Machinery movement and loading activities generate dust, which may disperse across the open gravel plain. Because vegetation is sparse and receptors are far away, dust is a manageable impact but remains the most notable issue.

Mitigation Measures:

- Limit operations to less windy days.
- Reduce vehicle speed.
- Stop dust-creating activities during extreme winds.
- Provide PPE to workers.

Residual significance is Moderate, the only impact not fully reducible to low due to natural wind conditions in the Namib.

Aeolian Processes and Wind-Driven Sand Movement

Wind-driven (aeolian) processes are a defining characteristic of the Namib Desert environment and play an important role in shaping surface morphology and sediment distribution. Although the proposed borrow pit areas are primarily located on gravel plains rather than within active coastal dune systems, surface disturbance associated with extraction activities may locally influence wind flow patterns and sediment mobility if not appropriately managed.

Unmitigated surface disturbance could result in increased wind erosion, localised surface deflation, or the development of small blowouts, particularly where surface roughness is reduced. Changes in micro-topography may also alter near-surface wind velocities, increasing the potential for sediment mobilisation.

To mitigate these potential impacts, extraction will be limited to shallow scraping, with borrow pit profiles maintained at low relief and gentle gradients. Progressive rehabilitation will be implemented to re-establish surface roughness comparable to surrounding undisturbed gravel plains. This approach reduces wind acceleration across disturbed surfaces, limits sediment entrainment, and supports natural stabilisation processes typical of the Namib environment.

With the application of these mitigation measures, alterations to aeolian processes are expected to be localised, temporary, and reversible.

Residual impact significance: Low, provided that shallow extraction profiles and progressive rehabilitation measures are consistently implemented.

Noise

Noise will be generated by loaders and trucks, but the site is remote and surrounded by undeveloped plains.

Mitigation Measures:

- Limit operations to daytime.
- Maintain machinery and fit mufflers.

- Provide hearing protection.

Residual impact is Very Low.

Waste and Pollution Risks

Waste generation will be minimal and limited mainly to domestic waste. A strict take in take out policy will be applied, and no maintenance activities or workshops will be conducted on site.

Mitigation Measures

- implement a strict take in take out waste management system
- Maintain spill kits on site and ensure staff are trained in spill prevention and response
- Dispose of all waste at the approved Swakopmund municipal disposal facility

With these measures in place, waste and pollution risks are expected to remain low.

Visual Impact

During operations, trucks and machinery may be visible from certain viewpoints, which could temporarily affect the visual experience of tourists and tour operators. However, the project area is remote, partially disturbed, and operations will be short term and fully reversible.

Mitigation Measures

- Keep operations compact and confined to the approved footprint
- Avoid bright colours, reflective materials, and unnecessary signage
- Maintain orderly site conditions to minimise visual intrusion

With these measures in place, the residual visual impact on tourists and tour operators is expected to be very low.

13.3. Cumulative Impacts

Cumulative impacts were assessed in the context of existing and approved sand and gravel extraction activities within the broader Swakopmund–Dorob area. While individual borrow pits are typically small and temporary, cumulative effects may include incremental landscape alteration, increased dust along shared access routes, visual fragmentation of the desert environment, and a perception of industrialisation within a protected area.

The proposed project's contribution to cumulative impacts is considered **Low**, provided mitigation measures are strictly implemented. Key measures include limiting extraction to the approved footprint, using existing access routes only, applying progressive rehabilitation, and suspending operations during high wind conditions.

13.4. Overall Impact Significance

Overall, the proposed borrow pit project is expected to result in **low residual environmental impacts**. The activities are temporary, fully reversible, and will not cause long-term ecological damage. The project is compatible with the multi-use management framework of Dorob National Park.

With effective implementation of mitigation measures and progressive rehabilitation, the disturbed areas are expected to reintegrate into the surrounding desert environment, leaving only a minimal and temporary environmental footprint.

14. REHABILITATION

14.1. Progressive Rehabilitation

Progressive rehabilitation will be implemented throughout the operational life of the borrow pit to minimise the extent and duration of environmental disturbance. Excavation will be undertaken in small, defined sections, allowing each worked area to be rehabilitated as soon as extraction is completed. This approach reduces exposed surfaces, limits erosion, and promotes early stabilisation of disturbed areas.

Progressive rehabilitation measures will include backfilling of excavated areas, recontouring to match surrounding landforms, respreading of topsoil, and stabilisation of surfaces to encourage natural recovery. Disturbed areas will not be left open unnecessarily, and rehabilitation will occur concurrently with ongoing operations where practical.

14.2. Rehabilitation

Rehabilitation for closure will focus on achieving a safe, stable, and self-sustaining landform that blends with the surrounding environment and does not pose long term safety or environmental risks. All remaining infrastructure, equipment, and waste will be removed from the site, and final shaping and stabilisation of the land surface will be completed. Closure rehabilitation will ensure that the site meets regulatory requirements and supports future compatible land use.

Together, progressive rehabilitation during operations and final rehabilitation at closure will ensure that environmental impacts are minimised, fully reversible, and managed in line with best practice and regulatory expectations.

15. CONCLUSION AND RECOMMENDATION

The objective of this environmental scoping assessment was to identify and evaluate the potential environmental impacts associated with the proposed borrow pit activities, assess their significance, and recommend practical mitigation measures.

Given the limited scale of the proposed borrow pit activities, the shallow nature of extraction, and the step-by-step approach to site development and progressive rehabilitation, the potential environmental impacts are expected to be low to moderate in magnitude, temporary in duration, localised in extent, and manageable through standard mitigation measures. All identified impacts have been addressed through appropriate mitigation measures, which are expected to reduce residual impacts to acceptable levels when effectively implemented.

Based on the findings of this assessment, it is recommended that an Environmental Clearance Certificate (ECC) be issued for the proposed project, subject to compliance with the Environmental Management Plan (EMP) and any conditions imposed by the competent authority. In implementing the project, the Proponent shall:

- Obtain all additional permits or approvals that may be required
- Comply fully with all mitigation and management measures contained in the EMP
- Ensure that rehabilitation is implemented progressively and in accordance with regulatory requirements.
- Coordinate and communicate with relevant stakeholders throughout project implementation to promote coexistence, including responding to enquiries, addressing site related concerns, and keeping affected parties and authorities informed of project progress and environmental compliance.

With these measures in place, the proposed borrow pit activities are considered environmentally acceptable and compatible with the surrounding environment.

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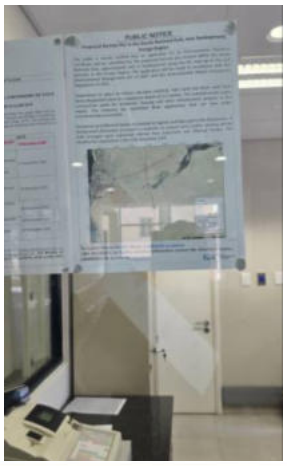
APPENDIX A – ENVIRONMENTAL CONSULTANTS CV

APPENDIX B – SITE NOTICES AND ADVERTS



Notices at the Erongo Regional Council Notice board

Notices at the site boundaries

Notices at the Goanikontes

Notices at Nonidas

SARB Governor: New 3% Inflation target is non-negotiable

New norm

Lesetja Kganyago says the target must be achieved "at all material times" as repo rate is cut to 6.75%.

OGONE TLHAGE

South African Reserve Bank (SARB) Governor Lesetja Kganyago says the newly stated inflation target of 3% will be non-negotiable and will have to be achieved at all material times. Kganyago made the remarks following the announcement of the repo rate, which was reduced by 25 basis points, bringing it down to 6.75% with effect from 21 November 2025.

From a target range to a point target

This follows a recent decision by South African finance minister Enoch Godongwana and Kganyago to move away from the inflation-targeting framework – which aimed to keep inflation within a 3–6% band instituted under then-SARB Governor Tito Mboweni – to a new target that aims to keep inflation firmly at 3%, with a tolerance band of 1 percentage point either side.

"To support communication and accountability, we therefore want it understood that inflation will not always be precisely 3%. When there are deviations, we will explain what has driven inflation away from target, and we will do what is required to get back to target," he said.

NEW NORM: South African Reserve Bank governor Lesetja Kganyago addresses the media while announcing a reduction in the repo rate by 25 basis points in that country this week, bringing it to 6.75%. PHOTO: SARB

While achieving the stated inflation target would be challenging, Kganyago stressed the need for the SARB to ensure it always achieves its objective.

"The tolerance band, of 1 percentage point either side of 3%, does not mean we will be indifferent to inflation anywhere between 2% and 4%. We want to be at 3%," Kganyago said. "However, no central bank has the tools to deliver inflation at an exact point all the time. As flexible inflation targeters, we also recognise that trying to offset all price shocks would create undesirable volatility in output," he added.

Why the repo rate was cut

The SARB expects to achieve its new firm inflation target over the next year or two, Kganyago said. "Monetary policy actions have their main effects on prices after 12 to 24 months, so you should expect us to achieve our target over that horizon. Accordingly, we want longer-run expectations to anchor at 3%, staying there even when there are shocks. This lag, between monetary policy decisions and outcomes, also explains why the 3% target is taking effect now, but will be achieved over the forecast period," Kganyago said.

Kganyago was upbeat that the Reserve Bank was moving in the right direction following the shift in monetary policy.

"For inflation expectations, we do not have an update from our usual survey this meeting, but market rates and surveys of analysts both show further progress towards the 3% objective," he said. According to him, core goods prices were benefiting from exchange-rate strength. "Food price inflation seems to have peaked, although we have a small upward revision to this forecast, mainly from beef prices. Services inflation is unchanged from the last meeting: the announced medical aid increases are lower than last year's; at the same time, housing inflation has accelerated, which warrants ongoing scrutiny," he said.

Against this backdrop, the SARB's Monetary Policy Committee decided to reduce the policy rate by 25 basis points, Kganyago explained.

"The decision was unanimous. Members agreed there was scope now to make the policy stance less restrictive, in the context of an improved inflation outlook. The quarterly projection model continues to forecast gradual rate cuts as inflation subsides. As before, this rate path remains a broad policy guide. Our decisions will continue to be taken on a meeting-by-meeting basis, with careful attention to the outlook, data outcomes, and the balance of risks to the forecast.

Bank of Namibia welcomes the move

The Bank of Namibia (BoN) has voiced its support for the policy shift, saying it will result in lower and more stable long-term inflation in Namibia. "An analysis carried out by the BoN found that a lower inflation target of 3% in South Africa will result in low and stable long-term inflation in Namibia, which is ultimately good for the objective of price stability," central bank Governor Johannes !Gawaxab said in a statement.

"Moreover, the eventual decline in inflation is expected to lead to a reduction in interest rates in the medium term. Mindful of the envisaged benefits of the lower inflation target, the Bank of Namibia welcomes the new target, as this could enhance welfare and macroeconomic stability for Namibia," he added.

PUBLIC NOTICE

Proposed Borrow Pits in the Dorob National Park, near Swakopmund, Erongo Region

The public is hereby notified that an application for an Environmental Clearance Certificate will be submitted for the proposed borrow pits activities located within the Dorob National Park, approximately east of Swakopmund along the B2 road up to the C28 junction, in the Erongo Region. The application will be made in accordance with the Environmental Management Act of 2007 and the Environmental Impact Assessment Regulations of 2012.

Powestone CC proposes to extract sub-base material, river sand, and dune sand from three designated areas to supply construction materials for roadworks, housing, and other infrastructure projects in the region. The company has submitted three applications currently undergoing environmental assessment.

Interested and Affected Parties are invited to register and take part in the EIA process. A Background Information Document is available upon on request, and a public meeting will be arranged upon expressed interest from Interested and Affected Parties. The deadline for registration is the 15th December 2025.

To register contact Ms Alli Iipinge,
info@earth-es.com.na,
For technical information contact: Ms. Emerita Ashipala, emerita@earth-es.com.na

EARTH ENVIRONMENTAL SERVICES

The Namibian Ports Authority (Namport) hereby invites bids through the Request For Proposal (RFP) procedures for:

(i) The Engineering Consulting Services in Road- and Land Infrastructure; and
(ii) Feasibility & Safety study for simultaneous operations (SIMOPS) at two existing fuel import jetties at the North Port for the Namibian Ports Authority.

Bid Reference Number	Brief Description	Pre-bid Conference	Last Day for Clarification Requests	Closing Date
CS/RFP/NAMPORT-3683/2025	Engineering Consulting Services in Road- and Land Infrastructure at the North Port, for the Namibian Ports Authority	Non-Compulsory Pre-bid meeting on 12 December 2025 @10h00 AM	08 January 2026	26 January 2026@ 12h00 PM (Virtual Bid Opening Link available on website)
CS/RFP/NAMPORT-3686/2025	Feasibility & safety study for simultaneous operations (Simops) at two existing fuel import jetties, Port of Walvis Bay – North Port, Namibia	Non-Compulsory Pre-bid meeting on 11 December 2025 @10h00 AM	12 January 2026	30 January 2026@ 12h00 PM (Virtual Bid Opening Link available on website)

1. Bids are invited through the Request for Proposal (RFP) procedure, and the invitation is open to all eligible bidders. All Bidders must comply with the requirements outlined in the bidding document.
2. Interested eligible bidders are requested to visit the Namport website at https://www.namport.com.na/procurement for details of the bidding requirements. Bidders must register as suppliers, express interest in a specific bid, to be granted access to the bidding documents.
3. A Non-compulsory Pre-Bid meeting is scheduled for **12 December 2025 AT 10H00 AM** for **CS/RFP/NAMPORT-3683/2025** and **11 December 2025 AT 10H00 AM** for **CS/RFP/NAMPORT-3686/2025.** The meetings will be held at Executive Boardroom, Namport Head Office, Walvis Bay. Bidders should take note that the virtual meeting link is also available on the website for bidders that would like to join the meeting virtually.

ALL enquiries related to this bid must be directed in writing by email to the following contact details:

Procurement Manager
Melani de Klerk
Tel: +264 208 2319
Email: mdeklerk@namport.com.na

Acting Tender and Contracts Administrator
Debby Sylvester
Tel: +264 208 2450
Email: dsylvester@namport.com.na or procurement@namport.com.na

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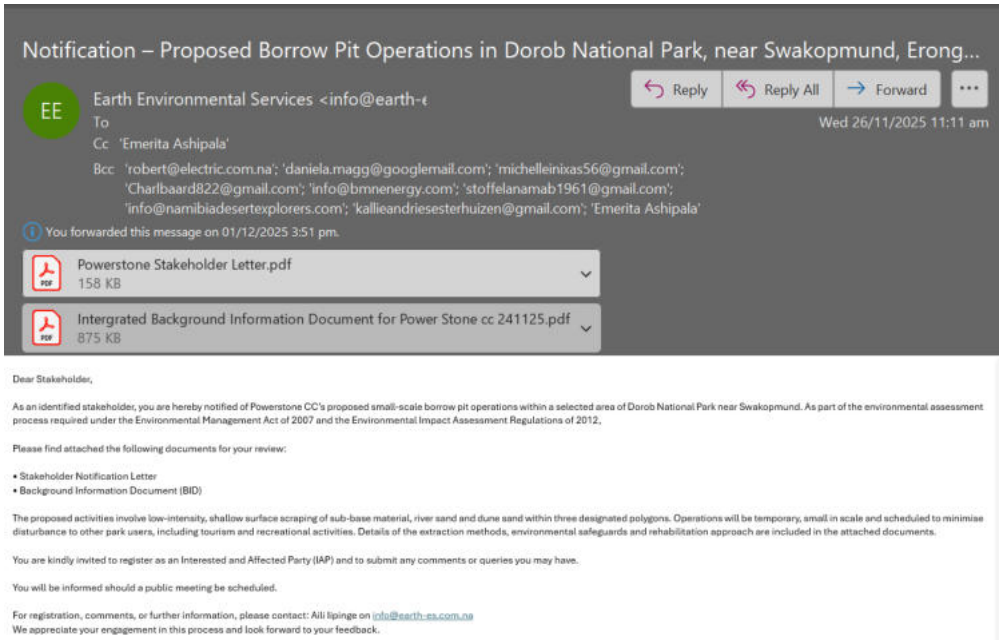
APPENDIX C – STAKEHOLDER REGISTER

POWER STONE CC PROPOSED BORROW PITS STAKEHOLDER REGISTER			
	Stakeholder	**Details**	**Comment**
1	Frank Löhnert	flohnert@iway.na	
2	Robert Scott	robert@electric.com.na	
3	Daniela Magg	daniela.magg@googlemail.com	
4	Michelle Inixas	michelleinixas56@gmail.com	
5	Charl Baard	Charlbaard822@gmail.com	
6	Karel Andries Esterhuysen – (EPL 8776 holder) -		
7	Elspa Mining – adjacent area south to Epl 3887		
8	Bannerman Mining Resources Namibia (Pty) Ltd's Swakopmund	info@bmnenergy.com	
9	Topnaar Traditional Authority Contact Person (Acting Chief): Name: Stoffel Anamab	Cell Number: 081 209 9105 Email: stoffelanamab1961@gmail.com	
10	6. Desert Adventures Chris Nel	Cell: +264 64 406096 , Email at info@namibiadesertexplorers.com	
11	Stro Safari Tours	Sabinebaas7@gmail.com	
12	Stro Safari Tours	strosafaritours@gmail.com	
13	Robert Scott	robert@electric.com.na	
14	charlys desert tours	gerald@charlysdeserttours.com	
15	Living Desert	info@livingdeserttours.com.na	
16		nature@iafrica.com.na	
17	Alter Action	alteraxn@iafrica.com.na	
18	Mark de Wet (Swakopmund Fat Bike Tours)	mark@swakopfatbiketours.com	



Notification – Proposed Borrow Pit Operations in Dorob National Park, near Swakopmund, Erong...

Reply | Reply All | Forward | ...

EE Earth Environmental Services <info@earth-e

To

Cc 'Emerita Ashipala'

Wed 26/11/2025 11:11 am

Bcc 'robert@electric.com.na'; 'daniela.magg@googlemail.com'; 'michelleinixas56@gmail.com'; 'Charlbaard822@gmail.com'; 'info@bmnenergy.com'; 'stoffelanamab1961@gmail.com'; 'info@namibiadesertexplorers.com'; 'kallieandriesesterhuizen@gmail.com'; 'Emerita Ashipala'

You forwarded this message on 01/12/2025 3:51 pm.

Powerstone Stakeholder Letter.pdf
158 KB

Intergrated Background Information Document for Power Stone cc 241125.pdf
875 KB

Dear Stakeholder,

As an identified stakeholder, you are hereby notified of Powerstone CC's proposed small-scale borrow pit operations within a selected area of Dorob National Park near Swakopmund. As part of the environmental assessment process required under the Environmental Management Act of 2007 and the Environmental Impact Assessment Regulations of 2012,

Please find attached the following documents for your review:

- Stakeholder Notification Letter
- Background Information Document (BID)

The proposed activities involve low-intensity, shallow surface scraping of sub-base material, river sand and dune sand within three designated polygons. Operations will be temporary, small in scale and scheduled to minimise disturbance to other park users, including tourism and recreational activities. Details of the extraction methods, environmental safeguards and rehabilitation approach are included in the attached documents.

You are kindly invited to register as an Interested and Affected Party (IAP) and to submit any comments or queries you may have.

You will be informed should a public meeting be scheduled.

For registration, comments, or further information, please contact: Aili Iipinge on info@earth-es.com.na
We appreciate your engagement in this process and look forward to your feedback.

APPENDIX D – FAUNA SPECIES LIST

Reptile diversity known and/or expected to occur in the general Kuiseb delta and dune belt area – i.e., Walvis Bay and Swakopmund areas.

Species: Scientific name	Species: Common name	Namibian conservation and legal status	International status
TURTLES AND TERRAPINS			
Pelomedusa subrufa	Marsh/Helmeted Terrapin	Secure	
SNAKES			
Thread Snakes			
Leptotyphlops occidentalis	Western Thread Snake	Endemic ;Secure	SARDB Peripheral
Leptotyphlops labialis	Damara Thread Snake	Endemic ;Secure	
Burrowing Snakes			
Xenocalamus bicolour bicolor	Bicoloured Quill-snoutedSnake	Secure	
Typical Snakes			
Lamprophis fuliginosus	Brown House Snake	Secure	
Lycophidion capense	Cape Wolf Snake	Secure	
Pseudaspis cana	Mole Snake	Secure	
Dipsina multimaculata	Dwarf Beaked Snake	Endemic ;Secure	
Psammophis trigrammus	Western Sand Snake	Endemic ;Secure	
Psammophis notostictus	Karoo Sand Snake	Secure	
Psammophis leightoni namibensis	Namib Sand Snake	Secure	
Dasypeltis scabra	Common/Rhombic EggEater	Secure	
Aspidelaps lubricus infuscatus	Coral Snake	Secure	
Aspidelaps scutatus	Shield-nose Snake	Secure	
Naya nigricincta	Black-necked Spitting Cobra	Endemic ;Secure	
Bitis arietans	Puff Adder	Secure	
Bitis caudalis	Horned Adder	Secure	
Bitis peringueyi	Péringuey"s Adder	Endemic ;Secure	
LIZARDS			
Skinks			
Typhlosaurus braini	Brains"s Blind Legless Skink	Endemic ;Secure	
Typhlacontias brevipes	FitzSimmons" Burrowing Skink	Endemic ;Secure	
Trachylepis occidentalis	Western Three-striped Skink	Secure	
Trachylepis striata wahlbergi	Striped Skink	Secure	
Trachylepis sulcata	Western Rock Skink	Secure	
Trachylepis variegata variegate	Variegated Skink	Secure	

Old World Lizards			
Heliobolus lugubris	Bushveld Lizard	Secure	
Meroles anchietae	Shovel-snouted Lizard	Secure	
Meroles cuneirostris	Wedge-snouted DesertLizard	Endemic ;Secure	
Meroles micropholidotus	Small-scaled Desert Lizard	Endemic ;Rare?	
Meroles reticulates	Reticulated Desert Lizard	Endemic ;Secure	
Meroles suborbitalis	Spotted Desert Lizard	Secure	
Pedioplanis breviceps	Short-headed Sand Lizard	Endemic ;Secure	
Pedioplanis namaquensis	Namaqua Sand Lizard	Secure	
Pedioplanis inornata	Plain Sand Lizard	Endemic ;Secure	
Plated Lizards			
Cordylosaurus subtessellatus	Dwarf Plated Lizard	Endemic ;Secure	
Monitors			
Varanus albigularis	Rock Monitor	Vulnerabl e; Peripheral Protected Game	CITES Appendix II Safe to Vulnerable
Agama			
Agama planiceps	Namibian Rock Agama	Secure	
Chameleons			
Bradypodion pumilum	Cape Dwarf Chameleon	Introduced alien Secure	CITES Appendix II
Chamaeleo namaquensis	Namaqua Chameleon	Secure	CITES Appendix II
Geckos			
Afroedura africana	African Flat Gecko	Endemic ;Rare?	
Chondrodactylus angulifer namibensis	Giant Ground Gecko	Secure	
Narudasia festiva	Festive Gecko	Endemic ;Secure	
Pachydactylus bicolour	Velvety Thick-toed Gecko	Endemic ;Secure	
Pachydactylus kockii	Koch"s Thick-toed Gecko	Endemic ;Secure	
Pachydactylus turneri	Turner"s Thick-toed Gecko	Secure	
Pachydactylus scherzi	Schertz"s Thick-toed Gecko	Endemic ;Secure	
Pachydactylus rugosus rugosus	Rough Thick-toed Gecko	Endemic ;Secure	
Pachydactylus weberi werneri	Weber"s Thick-toed Gecko	Endemic ;Secure	
Palmatogecko rangei	Wed-footed Gecko	Endemic ;Secure	
Ptenopus carpi	Carp"s Barking Gecko	Endemic ;Secure	
Ptenopus garrulus maculatus	Common Barking Gecko	Secure	
Ptenopus kocki	Kock"s Barking Gecko	Endemic ;Secure	
Rhoptropus afer	Common Namib Day Gecko	Endemic ;Secure	

Rhoptropus boultoni	Boulton"s Namib Day Gecko	Endemic ;Secure	
Rhoptropus bradfieldi	Bradfield"s Namib DayGecko	Endemic ;Secure	

Amphibian diversity known and/or expected to occur in the general Kuiseb delta and dune belt area – i.e. Walvis Bay and Swakopmund areas.

Species: Scientific name	Species: Common name	Status
Toads		
Poyntonophrynus dombensis	Dombe Toad	Endemic
Poyntonophrynus hoeschi	Hoesch"s Toad	Endemic
Amietophrynus poweri	Power"s Toad or Western Olive Toad	
Rain Frogs		
Breviceps adspersus	Common/Bushveld Rain Frog	
Rubber Frog		
Phrynomantis annectens	Marbled Rubber Frog	Endemic
Bull and Sand Frogs		
Tomopterna tandyi	Tandy"s Sand Frog	
Platannas		
Xenopus laevis	Common Platanna	

Mammal diversity known and/or expected to occur in the general Kuiseb delta and dune belt area – i.e. Walvis Bay and Swakopmund areas.

Species: Scientific name	Species: Common name	Namibian conservation	Species: Scientific name
Moles			
Eremitalpa granti	Grant"s Golden Mole	Endemic; Secure	[1]Vulnerable
Elephant Shrews			
Macroscelides proboscideus flavicaudatus	Round-eared Elephant-shrew	Endemic; Secure	
Bats			
Lissonycteris angolensis	*Angolan Soft-furred FruitBat	Not listed	
Tadarida aegyptiaca	Egyptian Free-tailed Bat	Secure	
Cistugo seabrai	Namibian Wing-gland Bat	Endemic; Rare	[1]Vulnerable; [2]Near Threatened
Laephotis namibensis	Namib Long-eared Bat	Endemic; Insufficiently known	
Nycteris thebaica	Common Slit-faced Bat	Secure	
Rhinolophus clivosus	Geoffroy"s Horseshoe Bat	Secure	[1]Near Threatened
Rhinilophus darling	Darling"s Horseshoe Bat	Secure	[1]Near Threatened
Rhinolophus capensis	*Cape Horseshoe Bat	Secure	[1]Near Threatened; [2]Near Threatened
Taphozous mauritianus	*Mauritanian Tomb Bat	Secure	
Chaerephon ansorgei	*Ansorge"s Free-tailed Bat	Not listed	
Sauromys petrophilus	Roberts"s Flat-headed Bat	Secure	
Miniopterus natalensis	Natal Long-fingered Bat	Secure	[1]Near Threatened

Eptesicus hottentotus	Long-tailed Serotine	Secure	
Neoromicia zuluensis	*Zulu Serotine	Secure	
Pipistrellus rueppellii	*Rüppell"s Pipistrelle	Insufficiently known; Peripheral	
Hares and Rabbits			
Lepus capensis	Cape Hare	Secure	
Rodents			
Rats and Mice			
Parotomys littledalei namibensis	Littledale"s Whistling Rat	Endemic; Secure	[1]Near Threatened
Rhabdomys pumilio	Striped Mouse	Secure	
Mus musculus	House Mouse	Invasive alien	
Aethomys chrysophilus	Red Veld Rat	Secure	
Micaelamys (*Aethomys*) *namaquensis*	Namaqua Rock Mouse	Secure	
Rattus	House Rat	Invasive alien	
Rattus norvegicus	Brown Rat	Invasive alien	
Desmodillus auricularis	Short-tailed Gerbil	Secure	
Gerbillurus paeba infernus	Hairy-footed Gerbil	Endemic; Insufficiently known	
Gerbillurus tytonis	Dune Hairy-footed Gerbil	Endemic; Secure	
Gerbillurus setzeri	Setzer"s Hairy-footed Gerbil or Namib Brush-tailedGerbil	Endemic	
Petromyscus collinus	Pygmy Rock Mouse	Endemic; Secure	
Mastomys coucha	Southern MultimammateMouse	Secure	
Petromys typicus	Dassie Rat	Endemic; Secure	[1]Near Threatened
Carnivores			
Hyaena brunnea	Brown Hyena	Insufficiently	[1]Near Threatened
		known; Vulnerable?	
Peripheral	2Near Threatened		
Crocuta	Spotted Hyena	Secure? Peripheral	1Near Threatened
Felis silvestris	African Wild Cat	Vulnerable	CITES Appendix II
Vulpes chama	Cape Fox	Vulnerable?	
Canis mesomelas	Black-backed Jackal	Secure; Problem animal	
Ictonyx striatus	Striped Polecat	Secure	
Suricata suricatta marjoriae	Suricate	Endemic; Secure	
Antelopes			
Sylvicapra grimmia	Common Duiker	Secure	
Antidorcas marsupialis	Springbok	Secure; Huntable game	

Bird diversity known and/or expected to occur in the general Kuiseb delta and dune belt area – i.e. Walvis Bay and Swakopmund areas.

Species: Scientific name	Species: Common name	Status: Namibia	Status: Southern Africa
Struthio camelus	Common Ostrich		
Podiceps cristatus	Great Crested Grebe		
Tachybaptus ruficollis	Little Grebe		
Podiceps nigricollis	Black-necked Grebe		
Pelecanus onocrotalus	Great White Pelican		
Pelecanus rufescens	Pink-backed Pelican		
Phalacrocorax lucidus	White-breasted Cormorant		
Morus capensis	Cape Gannet	Specially protected	Vulnerable; Breeding endemic
Phalacrocorax capensis	Cape Cormorant		Near-threatened; Breeding endemic
Phalacrocorax neglectus	Bank Cormorant	Specially protected	Endemic; Endangered
Phalacrocorax africanus	Reed Cormorant		
Phalacrocorax coronatus	Crowned Cormorant		Endemic; Near-threatened
Anhinga melanogaster	Darter		
Ardea cinerea	Grey Heron		
Ardea melanocephala	Black-headed Heron		
Ardea purpurea	Purple Heron		
Egretta garzetta	Little Egret		
Egretta intermedia	Yellow-billed Egret		
Egretta alba	Great Egret		
Egretta ardesiaca	Black Egret		
Bubulcus ibis	Cattle Egret		
Ardeola ralloides	Squacco Heron		
Ixobrychus minutes	Little Bittern		
Scopus umbretta	Hamerkop		
Ciconia nigra	Black Stork		
Phoenicopterus ruber	Greater Flamingo	Vulnerable	
Phoenicopterus minor	Lesser Flamingo	Vulnerable	Near-threatened
Dendrocygna viduata	Whitefaced Duck		
Alopochen aegyptiacus	Egyptian Goose		
Anas capensis	Cape Teal		
Anas hottentota	Hottentot Teal		
Anas erythrorhyncha	Redbiled Teal		
Anas smithii	Cape Shoveller		
Netta erythrophthalma	Southern Pochard		
Sagittarius serpentarius	Secretarybird		
Gyps africanus	White-backed Vulture		

Aegypius tracheliotus	Lappet-faced Vulture		
Circaetus pectoralis	Black-chested Snake-Eagle		
Elanus caeruleus	Black-shouldered Kite		
Aquila verreauxii	Verreaux"s Eagle		
Aquila rapax	Tawny Eagle		
Polemaetus bellicosus	Martial Eagle		
Buteo augur	Augur Buzzard		
Melierax canorus	Southern Pale ChantingGoshawk		Near endemic
Falco peregrines	Peregrine Falcon		
Falco biarmicus	Lanner Falcon		
Falco chicquera	Red-necked Falcon		
Falco rupicolus	Rock Kestrel		
Falco rupicoloides	Greater Kestrel		
Francolinus adspersus	Red-billed Francolin		
Trunix sylvatica	Kurrichane Buttonquail		
Porphyrio	African Purple Swamphen		
Gallinula chloropus	Common Moorhen		
Fulica cristata	Red-knobbed Coot		
Ardeotis kori	Kori Bustard		
Neotis ludwigii	Ludwig"s Bustard		Endangered;Near endemic
Eupodotis rueppellii	Rüppell"s Korhaan	Endemic	Near endemic
Eupodotis afra	Black Korhaan		
Actophilornis africanus	African Jacana		
Rostratula benghalensis	Painted Snipe		
Haematopus moquini	African Black Oystercatcher	Vulnerable	Near threatened ;Endemic
Charadrius marginatus	White-fronted Plover		
Charadrius pallidus	Chestnut-banded Plover		Near threatened
Charadrius pecuarius	Kittlitz"s Plover		
Charadrius tricollaris	Three-banded Plover		
Vanellus armatus	Blacksmith Lapwing		
Recurvirostra avosetta	Pied Avocet		
Himantopus	Black-winged Stilt		
Burhinus capensis	Spotted Thick-knee		
Cursorius rufus	Burchell"s Courser		
Rhinoptilus africanus	Double-banded Courser		
Larus dominicanus	Kelp Gull		
Larus cirrocephalus	Grey-headed Gull		
Larus hartlaubii	Hartlaub"s Gull		Endemic
Sterna bergii	Swift Tern		
Sterna balaenarum	Damara Tern	Endemic; Endangered	Near threatened; Breeding endemic
Chlidonias hybridus	Whiskered Tern		
Pterocles namaqua	Namaqua Sandgrouse		Near endemic

Pterocles bicinctus	Double-banded Sandgrouse		Near endemic
Columba guinea	Speckled Pigeon		
Columba livea	Rock Dove		
Streptopelia capicola	Cape Turtle Dove		
Streptopelia senegalensis	Laughing Dove		
Streptopelia capicola	Cape Turtle-Dove		
Oena capensis	Namaqua Dove		
Agapornis roseicollis	Rosy-faced Lovebird	Endemic	Near endemic
Corythaixoides concolor	Grey Go-away-bird		
Tyto alba	Barn Owl		
Otus leucotis	Southern White-facedScops-Owl		

Glaucidium perlatum	Pearl-spotted Owlet		
Bubo africanus	Spotted Eagle Owl		
Bubo lacteus	Giant Eagle Owl		
Caprimulgus tristigma	Freckled Nightjar		
Apus bradfieldi	Bradfield"s Swift		Near endemic
Colius	White-backed Mousebird		Endemic
Urocolius indicus	Red-faced Mousebird		
Ceryle rudis	Pied Kingfisher		
Merops hirundineus	Swallow-tailed Bee-eater		
Upupa epops	Hoopoe		
Phoeniculus cyanomelas	Scimitar-billed Woodhoopoe		
Tockus monteiri	Monteiro"s Hornbill	Endemic	
Tockus nasutus	African Grey Hornbill		
Lybius leucomelas	Pied Barbet		
Dendropicos fuscescens	Cardinal Woodpecker		
Mirafra sabota	Sabota Lark		
Mirafra curvirostris	Long-billed Lark		
Calendulauda erythrochlamys	Dune Lark	Endemic	Endemic
Chersomanes albofasciata	Spike-heeled Lark		Near endemic
Calandrella cinerea	Red-capped Lark		
Alauda starki	Stark"s Lark		Endemic
Ammomanopsis grayi	Gray"s Lark	Endemic	Near endemic
Certhilauda subcoronata	Karoo Long-billed Lark		Endemic
Eremopterix verticalis	Grey-backed Sparrowlark		Near endemic
Hirundo fuligula	Rock Martin		
Riparia paludicola	Brown-throated Martin		
Dicrurus adsimilis	Fork-tailed Drongo		
Corvus capensis	Cape Crow		
Corvus albus	Pied Crow		
Parus cinerascens	Ashy Tit		Near endemic
Anthoscopus minutes	Cape Penduline Tit		Near endemic
Turdoides bicolour	Pied Babbler		
Pycnonotus nigricans	African Red-eyed Bulbul		Near endemic
Monticola brevipes	Short-toed Rock Thrush		

Namibornis herero	Herero Chat	Endemic	Near endemic
Oenanthe monticola	Mountain Wheatear		Near endemic
Cercomela familiaris	Familiar Chat		
Cercomela tractrac	Tractrac Chat		Near endemic
Cercomela schlegelii	Karoo Chat		Near endemic
Myrmecocichla formicivora	Ant-eating Chat		Endemic
Erythropygia paena	Kalahari Robin		
Parisoma subcaeruleum	Chestnut-vented Tit-Babbler		Near endemic
Parisoma layardi	Layard"s Tit-Babbler		Endemic
Zosterops pallidus	Orange River White-eye		Endemic
Sylvietta rufescens	Long-biled Crombec		
Eremomela icteropygialis	Yellow-bellied Eremomela		
Eremomela gregalis	Karoo Eremomela		
Acrocephalus baeticatus	African Reed-Warbler		
Acrocephalus gracilirostris	Lesser Swamp-Warbler		
Cisticola aridulus	Desert Cisticola		
Cisticola subruficapilla	Grey-backed Cisticola		Near endemic
Cisticola juncidis	Zitting Cisticola		
Prinia flavicans	Black-chested Prinia		
Melaenornis mariquensis	Marico Flycatcher		Near endemic
Bradornis infuscatus	Chat Flycatcher		Near endemic
Muscicapa striata	Spotted Flycatcher		
Batis pririt	Pririt Batis		Near endemic
Motacilla capensis	Cape Wagtail		
Anthus navaeseelandiae	Richard"s Pipit		
Anthus similes	Long-billed Pipit		
Anthus vaalensis	Buffy Pipit		
Tchagra australis	Brown-crowned Tchagra		
Lanius collaris	Common Fiscal		
Laniarius atrococcineus	Crimson-breasted Shrike		Near endemic
Nilaus afer	Brubru		
Telophorus zeylonus	Bokmakierie		Near endemic
Creatophora cinerea	Wattled Starling		
Lamprotornis nitens	Cape Glossy Starling		
Onychognathus nabouroup	Pale-winged Starling		Near endemic
Chalcomitra senegalensis	Scarlet-chested Sunbird		
Nectarinia mariquensis	Marico Sunbird		
Nectarinia fusca	Dusky Sunbird		Near endemic
Passer domesticus	House Sparrow		
Passer motitensis	Great Sparrow		Near endemic
Passer melanurus	Cape Sparrow		Near endemic
Passer griseus	Southern Grey-headedSparrow		
Sporopipes squamifrons	Scaly-feathered Finch		Near endemic
Plocepasser mahali	White-browed Sparrow-Weaver		
Philetairus socius	Sociable Weaver		Endemic

Ploceus velatus	Southern Masked Weaver		
Quelea	Red-billed Quelea		
Euplectes orix	Southern Red Bishop		
Estrilda erythronotos	Black-faced Waxbill		
Estrilda astrild	Common Waxbill		
Amadina erythrocephala	Red-headed Finch		Near endemic
Vidua regia	Shaft-tailed Whydah		
Serinus alario	Black-headed Canary		
Serinus flaviventris	Yellow Canary		Near endemic
Crithagra atrogulariis	Black-throated Canary		
Serinus albogularis	White-throated Canary		Near endemic
Emberiza capensis	Cape Bunting		Near endemic
Emberiza tahapisi	Cinnamon-breasted Bunting		
Emberiza impetuani	Lark-like Bunting		Near endemic

APPENDIX E – FLORA SPECIES LIST

SPECIES	ENDEMISM	PROTECTED	IUCN2
Abutilon pycnodon Hochr.			
Acacia reficiens Wawra subsp. reficiens			
Acanthopsis hoffmannseggiana (Nees) C.B.Clarke			
Acrotome fleckii (Gürke) Launert	Endemic		
Adenolobus garipensis (E.Mey.) Torre & Hillc.			
Adenolobus pechuelii (Kuntze) Torre & Hillc. subsp. pechuelii			
Aizoanthemum dinteri (Schinz) Friedrich	Endemic		
Aizoanthemum galenioides (Fenzl ex Sond.) Friedrich	Endemic		
Aloe asperifolia A.Berger	Endemic	Protected	
Anticharis ebracteata Schinz	Endemic		
Anticharis imbricata Schinz	Endemic		
Arctotis venusta Norl.			
Aristida parvula (Nees) De Winter			
Arthraerua leubnitziae (Kuntze) Schinz	Endemic		
Atriplex lindleyi Moq. subsp. inflata (F.Muell.) Paul G.Wilson			
Atriplex semibaccata R.Br. var. appendiculata Aellen			
Blepharis grossa (Nees) T.Anderson	Near Endemic		
Blepharis obmitrata C.B.Clarke			
Boscia albitrunca (Burch.) Gilg & Gilg-Ben.		Forestry Protected	
Brachiaria glomerata (Hack.) A.Camus			
Brownanthus kuntzei (Schinz) Ihlenf. & Bittrich			
Calostephane marlothiana O.Hoffm.	Endemic		
Camptoloma rotundifolium Benth.			
Capparis hereroensis Schinz	Endemic		
Centropodia glauca (Nees) Cope			
Chascanum garipense E.Mey.			
Chenopodium murale L. var. acutidentatum Aellen			
Chenopodium murale L. var. murale			

SPECIES	ENDEMISM	PROTECTED	IUCN2
Citrullus ecirrhosus Cogn.	Near Endemic		
Cladoraphis spinosa (L.f.) S.M.Phillips			
Cleome elegantissima Briq.			
Cleome foliosa Hook.f. var. lutea (Sond.) Codd & Kers			
Cleome gynandra L.			
Cleome semitetrandra Sond.			
Cleome suffruticosa Schinz	Endemic		
Codon royenii L.			
Commiphora oblanceolata Schinz	Near Endemic		
Commiphora saxicola Engl.	Endemic		
Commiphora wildii Merxm.			
Cordia sp. C			
Cotula anthemoides L.			
Cotula coronopifolia L.			
Cotyledon orbiculata L. var. orbiculata			
Crassothonna protecta (Dinter) B.Nord.			
Crotalaria colorata Schinz subsp. colorata	Endemic		
Crotalaria colorata Schinz subsp. erecta (Schinz) Polhill	Endemic		
Cucumis africanus L.f.			
Cullen tomentosum (Thunb.) J.W.Grimes			
Cyamopsis serrata Schinz			
Cynodon dactylon (L.) Pers.			
Cyperus laevigatus L.			
Cyperus marginatus Thunb.			
Datura innoxia Mill.			
Dauresia alliariifolia (O.Hoffm.) B.Nord. & Pelser			
Deverra denudata (Viv.) Pfisterer & Podlech subsp. aphylla (Cham. & Schltdl.) Pfisterer & Podlech			
Dichrostachys cinerea (L.) Wight & Arn. subsp. africana Brenan & Brummitt var. africana			
Dinteracanthus kaokoanus (E.Tripp & K.G.Dexter) E.Tripp & I.Darbysh.	Endemic		
Dipcadi platyphyllum Baker			
Doellia cafra (DC.) Anderb.			

SPECIES	ENDEMISM	PROTECTED	IUCN2
Drimia fasciata (B.Nord.) J.C.Manning & Goldblatt			
Dyerophytum africanum (Lam.) Kuntze			
Eleocharis seydeliana Podlech			
Engleria africana O.Hoffm.			
Enneapogon desvauxii P.Beauv.			
Entoplocamia aristulata (Hack. & Rendle) Stapf			
Eragrostis annulata Rendle ex Scott-Elliot			
Eragrostis omahekensis De Winter	Endemic		
Eriocephalus pinnatus O.Hoffm.	Endemic		
Euclea pseudebenus E.Mey. ex A.DC.			
Euphorbia giessii L.C.Leach	Endemic		
Euphorbia glanduligera Pax			
Euphorbia lignosa Marloth	Near Endemic		
Euphorbia phylloclada Boiss.			
Fagonia minutistipula Engl.			
Faidherbia albida (Delile) A.Chev.		Forestry Protected	
Felicia anthemidodes (Hiern) Mendonça			
Felicia smaragdina (S.Moore) Merxm.	Endemic		
Ficus cordata Thunb. subsp. cordata		Forestry Protected	
Flaveria bidentis (L.) Kuntze			
Forsskaolea hereroensis Schinz	Near Endemic		
Frankenia pulverulenta L.			
Galenia africana L.			
Galenia papulosa (Eckl. & Zeyh.) Sond.			
Galenia papulosa (Eckl. & Zeyh.) Sond. var. microphylla Adamson			
Gazania jurineifolia DC. subsp. scabra (DC.) Roessler	Near Endemic		
Geigeria ornativa O.Hoffm.			
Geigeria rigida O.Hoffm.	Endemic		
Gisekia africana (Lour.) Kuntze var. africana			
Glinus lotoides L. var. lotoides			

SPECIES	ENDEMISM	PROTECTED	IUCN2
Gomphocarpus filiformis (E.Mey.) Dietr.			
Gossypium herbaceum L. subsp. africanum (Watt) Vollesen			
Helichrysum argyrosphaerum DC.			
Helichrysum candolleanum H.Buek			
Helichrysum herniarioides DC.			
Helichrysum obtusum (S.Moore) Moeser			
Helichrysum roseo-niveum Marloth & O.Hoffm.			
Heliotropium albiflorum Engl.	Endemic		
Heliotropium curassavicum L.			
Heliotropium ovalifolium Forssk.			
Heliotropium tubulosum E.Mey. ex DC.			
Hermannia affinis K.Schum.			
Hermannia amabilis Marloth ex K.Schum.	Endemic		
Hermannia helianthemum K.Schum.			
Hermannia solaniflora K.Schum.	Near Endemic		
Hermbstaedtia spathulifolia (Engl.) Baker	Endemic		
Hexacyrtis dickiana Dinter	Near Endemic		
Hibiscus elliottiae Harv.			
Hirpicium gazanioides (Harv.) Roessler			
Hoodia currorii (Hook.) Decne. subsp. currorii		Protected	
Hoodia gordonii (Masson) Sweet ex Decne.		Protected	Near Threatened
Hypertelis cerviana (L.) Thulin			
Hypertelis salsoloides (Burch.) Adamson var. salsoloides			
Indigastrum argyroides (E.Mey.) Schrire			
Indigofera auricoma E.Mey.			
Indigofera heterotricha DC. subsp. heterotricha			
Jamesbrittenia barbata Hilliard	Endemic		
Jamesbrittenia canescens (Benth.) Hilliard var. canescens			

SPECIES	ENDEMISM	PROTECTED	IUCN2
Jamesbrittenia hereroensis (Engl.) Hilliard	Endemic		
Jamesbrittenia maxii (Hiern) Hilliard			
Juncus rigidus Desf.			
Kissenia capensis Endl.			
Kleinia longiflora DC.			
Kohautia caespitosa Schnizl. subsp. brachyloba (Sond.) D.Mantell			
Kohautia ramosissima Bremek.			
Launaea intybacea (Jacq.) P.Beauv.			
Leobordea platycarpa (Viv.) B.-E. van Wyk & Boatwr. [2]			
Lepidium englerianum (Muschl.) Al-Shehbaz			
Limeum argute-carinatum Wawra ex Wawra & Peyr. var. argute-carinatum			
Limeum myosotis H.Walter var. confusum Friedrich			
Lobelia thermalis Thunb.			
Lolium rigidum Gaudich.			
Lophiocarpus polystachyus Turcz.			
Lycium oxycarpum Dunal			
Lycium tetrandrum Thunb.			
Maerua schinzii Pax		Forestry Protected	
Mesembryanthemum cryptanthum Hook.f.			
Mesembryanthemum guerichianum Pax			
Microcharis disjuncta (J.B.Gillett) Schrire var. disjuncta			
Monechma cleomoides (S.Moore) C.B.Clarke			
Monechma desertorum (Engl.) C.B.Clarke	Endemic		
Monechma divaricatum (Nees) C.B.Clarke			
Myxopappus hereroensis (O.Hoffm.) Källersjö	Endemic		
Nesaea luederitzii Koehne var. luederitzii			
Nidorella resedifolia DC. subsp. resedifolia			
Odyssea paucinervis (Nees) Stapf			

SPECIES	ENDEMISM	PROTECTED	IUCN2
Ondetia linearis Benth.	Endemic		
Ophioglossum polyphyllum A.Braun			
Ornithogalum rautanenii Schinz	Endemic		
Ornithogalum stapffii Schinz	Endemic		
Ornithoglossum vulgare B.Nord.			
Orthanthera albida Schinz			
Osteospermum microcarpum (Harv.) Norl. subsp. microcarpum			
Panicum repens L.			
Parkinsonia africana Sond.			
Paspalum vaginatum Sw.			
Pechuel-loeschea leubnitziae (Kuntze) O.Hoffm.			
Pelargonium otaviense R.Knuth			
Pergularia daemia (Forssk.) Chiov. var. daemia			
Petalidium canescens (Engl.) C.B.Clarke	Endemic		
Petalidium variabile (Engl.) C.B.Clarke var. spectabile Mildbr.	Endemic		
Phragmites australis (Cav.) Steud.			
Poa annua L.			
Polygala guerichiana Engl.			
Polygonum plebeium R.Br.			
Polypogon monspeliensis (L.) Desf.			
Polypogon viridis (Gouan) Breistr.			
Potamogeton pectinatus L.			
Psilocaulon kuntzei (Schinz) Dinter & Schwantes			
Psilocaulon salicornioides (Pax) Schwantes	Near Endemic		
Raphionacme haeneliae Venter & Verhoeven	Endemic		
Rhus marlothii Engl.			
Ruellia marlothii Engl.			
Ruppia maritima L.			
Salsola aphylla L.f.			
Salsola arborea C.A.Sm. ex Aellen			
Salsola gemmifera Botsch.			
Salsola kali L.			
Salsola swakopmundi Botsch.	Endemic		
Salvadora persica L. var. persica			

SPECIES	ENDEMISM	PROTECTED	IUCN2
Salvia garipensis E.Mey. ex Benth.	Near Endemic		
Sarcocaulon mossamedense (Welw. ex Oliv.) Hiern	Near Endemic		
Sarcocornia natalensis (Bunge ex Ung.-Sternb.) A.J.Scott var. affinis (Moss) O'Callaghan			
Senecio engleranus O.Hoffm.	Endemic		
Senecio flavus (Decne.) Sch.Bip.			
Sesamum marlothii Engl.	Endemic		
Sesbania pachycarpa DC. subsp. dinterana J.B.Gillett	Near Endemic		
Sesuvium sesuvioides (Fenzl) Verdc.			
Sonchus oleraceus L.			
Spergularia media (L.) C.Presl			
Sporobolus consimilis Fresen.			
Sporobolus nebulosus Hack.	Near Endemic		
Sporobolus virginicus (L.) Kunth			
Stapelia kwebensis N.E.Br.		Protected	
Stipagrostis ciliata (Desf.) De Winter var. capensis (Trin. & Rupr.) De Winter			
Stipagrostis damarensis (Mez) De Winter	Near Endemic		
Stipagrostis dinteri (Hack.) De Winter			
Stipagrostis giessii Kers			
Stipagrostis hermannii (Mez) De Winter	Near Endemic		
Stipagrostis hochstetteriana (Beck ex Hack.) De Winter var. hochstetteriana			
Stipagrostis hochstetteriana (Beck ex Hack.) De Winter var. secalina (Henrard) De Winter			
Stipagrostis namaquensis (Nees) De Winter			
Stipagrostis obtusa (Delile) Nees			
Stipagrostis schaeferi (Mez) De Winter			
Stipagrostis subacaulis (Nees) De Winter			
Suaeda merxmuelleri Aellen			
Suaeda plumosa Aellen			
Tamarix ramosissima Ledeb.			
Tamarix usneoides E.Mey. ex Bunge			

SPECIES	ENDEMISM	PROTECTED	IUCN2
Tapinanthus oleifolius (J.C.Wendl.) Danser			
Tephrosia dregeana E.Mey. var. dregeana	Near Endemic		
Tetraena clavata (Schltr. & Diels) Beier & Thulin	Near Endemic		
Tetragonia decumbens Mill.			
Tetragonia reduplicata Welw. ex Oliv.			
Trianthema hereroensis Schinz	Endemic		
Tribulus excrucians Wawra			
Tribulus zeyheri Sond. subsp. zeyheri			
Trichodesma africanum (L.) Lehm.			
Tripteris microcarpa Harv. subsp. microcarpa			
Tripteris microcarpa Harv. subsp. septentrionalis (Norl.) B.Nord.			
Tripteris nervosa Hutch.	Endemic		
Triraphis pumilio R.Br.			
Vahlia capensis (L.f.) Thunb. subsp. vulgaris Bridson var. vulgaris			
Verbesina encelioides (Cav.) Benth. & Hook.f. ex A.Gray var. encelioides			
Welwitschia mirabilis Hook.f.	Near Endemic	Protected	
Xanthium strumarium L.			
Zannichellia palustris L.			
Zygophyllum simplex L.			
Zygophyllum spongiosum Van Zyl			
Zygophyllum stapffii Schinz	Endemic		