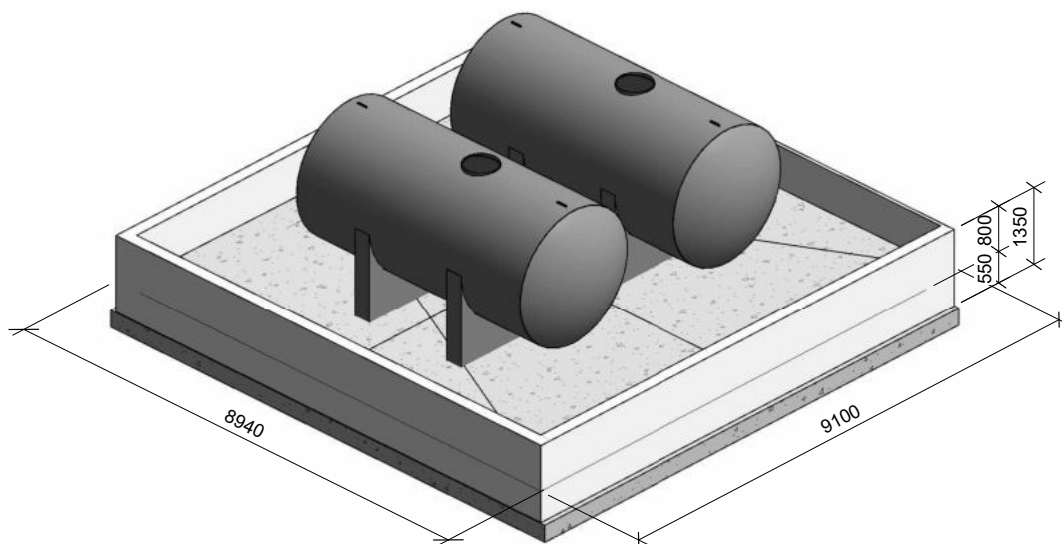


Application No: 251020006558

**Environmental Management Plan for the Installation of two
above ground fuel tank with a total capacity of 46 cubic meters at Kalkveld
Settlement, Otjozondjupa Region**



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AUTHORS	Mr. Ipeinge Mundjulu 
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ACRONYMS

DEA	Department of Environmental Affairs
EA	Environmental Assessment
EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
ECO	Environmental Compliance Officer
EIA	Environmental Impact Assessment
EMA	Environmental Management Act (No. 7 of 2007)
EMP	Environmental Management Plan
MET	Ministry of Environment and Tourism
PPE	Personal Protective Equipment
RDC	Red-Dune Consulting CC
SM	Site Manager

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Executive summary

This Environmental Management Plan (EMP) covers the proposed installation and operation of two 23 m³ above-ground diesel fuel tanks at China Jiangxi International Economic and Technical Cooperation Namibia Co. Ltd.'s Kalkveld construction campsite (Otjozondjupa Region). On-site fuel storage is required to support heavy railway construction equipment and to improve operational efficiency. The land has been allocated by the Otjozondjupa Regional Council (Annex 1).

Key controls include steel horizontal tanks with venting, overfill protection, emergency shut-offs and grounding; reinforced concrete bunds sized to hold at least 110% of tank volume; leak detection and high-level alarms; secured fencing and access control; designated refuelling pads; and fire-fighting equipment. Operational measures require staff training, PPE, authorised fuel suppliers, supervised transfers, routine inspections, spill kits, and clear emergency procedures.

Main risks addressed are VOC exposure (BTEX), fire/explosion, spills and soil/water contamination, stormwater impacts, vandalism, and waste generation. Monitoring includes daily logs, regular inspections, maintenance records, training/drill documentation and incident reporting, with the Site Manager responsible for implementation and escalation to regulators as needed.

With full implementation of the EMP measures and regulatory conditions, the proposed fuel storage operations at Kalkveld are expected to pose minimal environmental and social risk. Approval is recommended subject to compliance with the EMP and conditions from relevant authorities.

Chapter 1. Introduction and Background

1.1. Proponent

China Jiangxi International Economic and Technical Cooperation Namibia Co. Ltd. is a prominent enterprise specializing in infrastructure development, engineering, and technical cooperation. The company has been actively involved in promoting various economic and technical projects in Namibia, with a particular focus on enhancing transportation infrastructure. Currently, they are engaged in an ongoing upgrade of Namibia's railway network. This project aims to address the aging railway infrastructure in the country, thereby improving connectivity, boosting trade, and facilitating regional integration.

The company operates two main construction campsites, one located in Kalkveld Settlement in the Otjozondjupa region and the other in Rosh Pinah in Khara Region. Due to the use of heavy construction equipment, the company is installing two 23-cubic-meter above-ground diesel fuel tanks at its construction campsites.

1.2. Regulatory requirements

The Environmental Management Act (Act No. 7 of 2007) specifies that handling and storage of fuel volumes of 30 cubic meters or more are activities that cannot be undertaken without an Environmental Clearance Certificate (ECC). These activities include:

- 9.1 The manufacturing, storage, handling or processing of a hazardous substance defined in the Hazardous Substances Ordinance, 1974.
- 9.4 The storage and handling of a dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic meters at any one location.

Consequently, the company has appointed Red-Dune Consulting, an independent environmental consulting firm, to develop an Environmental Management Plan for the operation of the above fuel tanks. Please note that this EMP has been developed specifically for the Kalkveld Construction Camp Site.

1.3. The need for onsite fuel tank

Railway construction operations involving heavy vehicles and equipment that require large volumes of diesel daily. As a result, fuelling from traditional service stations is neither convenient nor economical. To address this, such operations are typically supported by onsite above-ground fuel tanks, which are considered safe and easily monitored.

1.4. Consent from relevant authority

The land on which the site is situated has been allocated to the company by the Otjozondjupa Regional council (see Annex 1).

Chapter 2. Project Description

2.1. Location

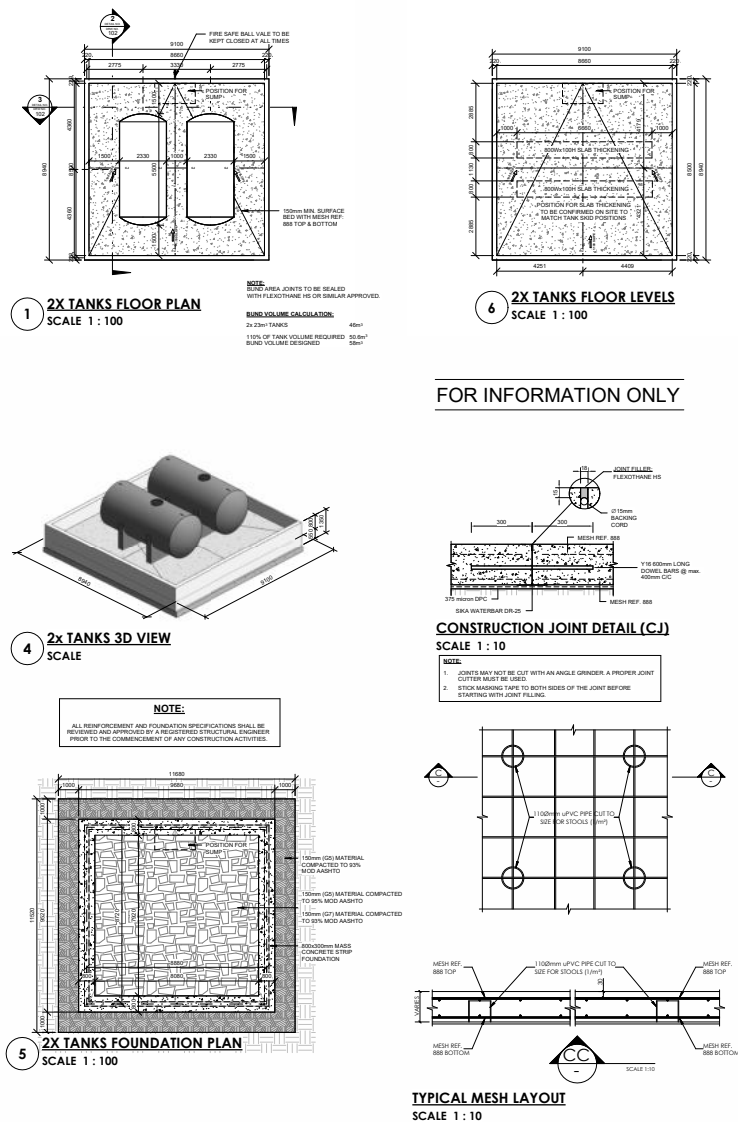
The construction campsite is located on the outskirts of Kalkveld Settlement, near the railway GPS -20.892544°S, 16.190196°E) (Figure 1).



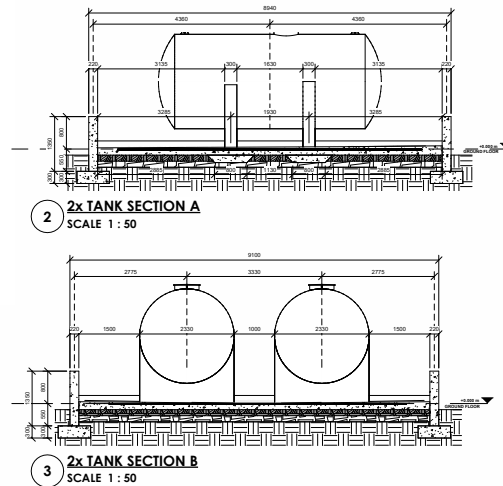
Figure 1. Location Kalkveld Construction Camp Site

2.2. Desing of fuel tank platform

The design for the above-ground fuel tank is made with an integrated containment system to manage accidental / over fuelling spills. The tanks are made of steel for durability and corrosion resistance with the venting system to prevent pressure buildup and accommodate temperature variations as we all safety features that enables emergency shut-off valves and grounding to prevent static buildup. The containment structure is constructed with concrete to ensure no infiltration could occur. The containment capacity is designed to hold at least 110% of the tank's maximum capacity to contain potential spills or leaks (Figure 2).



FOR INFORMATION ONLY



NOTES 1. THE CONTRACTOR MUST VERIFY ALL LEVELS AND DIMENSIONS ON SITE PRIOR TO ANY WORK COMMENCING AND ANY DISCREPANCIES MUST BE DISCUSSED WITH THE ENGINEER. 2. DRAWING MUST NOT BE SCALED. 3. ALL WORKMANSHIP AND MATERIALS MUST COMPLY WITH THE LATEST FIRE SAFETY CODES. 4. THE ENGINEER MUST INSPECT AND APPROVE ALL EXCAVATIONS PRIOR TO FIXING ANY REINFORCEMENT. 5. MINIMUM SAFE BEARING PRESSURE = 200kPa. 6. ALL COLLARS AND BASES CENTRED ON GRID LINES UNLESS OTHERWISE NOTED. 7. ALL EXPOSED CONCRETE WORK TO BE SMOOTH FINISHED TO RECEIVE HIGH QUALITY PAINT FINISH AS PER LATER INSTRUCTION.		
CLIENT HORIZON FUELS & LOGISTICS (PTY) LTD ERF 136 Jan Jonker Road Windhoek, Khomas 10005 Namibia info@horizonfuels.com.na		
CONSULTANTS QUANTITY SURVEYOR ELECTRICAL ENGINEER MECHANICAL ENGINEER STRUCTURAL / CIVIL ENGINEER ARCHITECT SN ARCHITECTS SVEN NIEBERLE - OSM B1 128 2310 EMAIL: INFO@SNARCH.NET		
PROJECT: BUNDED FUEL TANKS		
DRAWN BY: HW	CHECKED: SN	SCALE: As indicated
2X TANKS		
PROJECT NO: 0198	DWG NO: 102	REV NO: R00
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Figure 2. Tank design

2.3. Supporting infrastructure

Water: The site is connected to the NamWater settlement water pipeline.

Electricity: The site is connected to the electricity grid, supplied by NamPower.

Ablution Facility: The site currently uses mobile toilets (see Figure 3).



Water Tap on site



Mobile Toilet on site



Three Phase Electrical Lines to site

Figure 3. Supporting infrastructure on site

Chapter 3. Description of the Environment

3.1. On site Environment

The construction campsite has been cleared. Evidence of the surrounding area indicated that, the area is encroached by patchy shrubs of Black Thorn (*Acacia mellifera*), trees of Camel Thorn (*Acacia erioloba*) and Shepherd's Tree (*Boscia albitrunca*).



Site inside



Outside next to site

Figure 4. Site pictures

3.2. General Kalkveld Environment

Component	Aspects	Description
Biophysical Environment	Location & geology	• Kalkveld is a settlement in the Otjozondjupa Region of central Namibia, situated about halfway between Omaruru and Otjiwarongo. • The area lies at an elevation of around 1,500 m above sea level

Component	Aspects	Description
		Underlying geology includes a “complex” near Kalkveld of carbonatite, syenite and related rock types
	Climate	- The climate is classified as semi-arid - Annual rainfall in the Otjozondjupa Region varies widely, from about 300 mm up to ~600 mm depending on location. - Average annual temperature is about 20–21 °C in the region high sunshine hours (about 9–10 hours per day) with strong solar radiation.
	Vegetation & soils	- The region falls within the “Tree-and-Shrub Savanna” biome (specifically Acacia tree & shrub savanna) - The Kalkveld area and wider Otjozondjupa region, vegetation is described as “<i>thorn bush savannah/shrubland</i>” dominated by species such as Black Thorn (<i>Acacia mellifera</i>), Camel Thorn (<i>Acacia erioloba</i>) and Shepherd’s Tree (<i>Boscia albitrunca</i>). - Soils in much of the region include reddish Arenosols in many parts, with pockets of calcrete or other deposits.
Social Environment	Demographics & settlement status	- Kalkveld is designated as a settlement in the Otjozondjupa Region, within the Omatako Constituency. - Its estimated population is about 5,000 inhabitants. - The settlement status has been pointed to as a hindrance for investment and development (e.g., inability to purchase property, lack of business growth).
	Economy & livelihoods	Unemployment is very high in Kalkveld – estimated to be over 90 % unemployment among youth

Component	Aspects	Description
		• Few businesses: locals report a small shop, a fuel station at the entrance, and minimal other commercial infrastructure. • Main livelihood activities in the broader region include livestock farming (cattle, goats) and some cropping where conditions allow. The challenge is that semi-arid climate, degraded rangelands and bush encroachment that limit productivity.
	Infrastructure & services	• Infrastructure is limited: Kalkveld lacks many basic amenities such as sanitation, roads are un-tarred in many parts, and minima investment. • The regional council has prioritised Kalkveld for upgrade in infrastructure as part of socio-economic upliftment plans.
	Culture & heritage	• Situated in former Damaraland territory; local languages include Khoekhoegowab or Otjiherero among inhabitants. • The presence of rock engravings near Kalkveld, on nearby farms indicate long-standing human occupation and cultural heritage.

3.3. Summary of the receiving environment

- Kalkveld lies in a semi-arid savanna zone with thornbush vegetation and sandy soils
- Experience low and high variable rainfall
- Major environmental challenges include bush encroachment and water scarcity.
- Socially, Kalkveld has high unemployment, under-development and limited infrastructure.

Chapter 4. Policy and legal framework

The implementation of this Environmental Management Plan (EMP) is guided by the national legal and regulatory framework governing environmental protection and sustainable development in Namibia. Compliance with these laws is essential to ensure that the project is conducted in an environmentally responsible manner and in alignment with both national priorities and international best practices. A list of KEY legislation and policies is provided in Table 1 below.

Table 1. Policy and Legal framework governing the project

Legislation	Summary	Applicability
The Namibian Constitution	The Namibian constitution is the supreme law of the country which is committed to sustainable development. Article 95(1) of the Constitution of Namibia states that:- “The State shall actively promote and maintain the welfare of the people by adopting policies aimed at ... The maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future”.	Contact an EIA to maintain the ecological process and diversity of the project area
The Environmental Management Act	The Environmental Management Act No 7 of 2007 aims to promote the sustainable management of the environment and the use of natural resources and to provides for a process of assessment and control of activities which may have significant effects on the environment; and to provide for incidental	Statutory requirement of the EIA and guidelines

Legislation	Summary	Applicability
	matters. The acts provides a list of activities that may not be undertake without an environmental clearance certificate. Further, the Act ensures that; (a) Potential threats are considers timeously (b) A comprehensive stakeholder’s consultations is conducted and all Interested and affected parties are given an opportunity to comment on the project (c) Decision are robust by considering the above mentioned activities	
Draft Pollution Control and Waste Management Bill	This Bill serves to regulate and prevent the discharge of pollutants to air and water as well as providing for general waste management. The Bill will repeal the Atmospheric Pollution Prevention Ordinance (11 of 1976) when it comes into force. The Bill also provides for noise, dust or odour control that may be considered a nuisance. Further, the Bill advocates for duty of care with respect to waste management affecting humans and the environment and calls for a waste management licence for any activity relating to waste or hazardous waste management.	Prevention of oil spills and leakages to prevent pollution
Atmospheric Pollution Prevention	This Ordinance serves to control air pollution from point sources, but it does not consider ambient air quality. This ordinance is being repealed by the proposed Pollution Control and Waste Management Bill. Any person carrying out a ‘scheduled process’ which are processes resulting in noxious or offensive	Although it is not anticipated for the fuel station to generate excessive noxious or offensive gasses, the proponent will ensure that best industry practises are followed.

Legislation	Summary	Applicability
Ordinance Act No.11 of 1976)	gases typically pertaining to point source emissions must obtain a registration certificate from the Department of Health.	
The Occupational Safety and Health Act No. 11 of 2007;	Safety: A safety risk is a statistical concept representing the potential of an accident occurring, owing to unsafe operation and/or environment. In the working context “SAFETY” is regarded as “free from danger” to the health injury and to properties. Health: Occupational Health is aimed at the promotion and maintenance of the highest degree of physical, mental and social wellbeing of workers in all occupations. This is done by ensuring that all work-related hazards are prevented and where they occur, managed.	Handling of fuel is susceptible to fire and explosion risk To maintain good and healthy standards, at the work place, cleanliness, adequate sanitary facilities, prevention of inhaling toxic emissions.
Public Health Act No. 36 of 1919	The Act serves to protect the public from nuisance and states that no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.	The proponent should ensure that the fuel tank is safe, and not dangerous to public health and that any emissions which could be considered a nuisance remain at acceptable levels.

Legislation	Summary	Applicability
Water Resources Management Act (2004)	This Act provides a framework for managing water resources based on the principles of integrated water resources management. It provides for the management, development, protection, conservation, and use of water resources. Furthermore, any watercourse on/or near the site and associated ecosystems should be protected in alignment with the listed principles.	The prevention of water pollution from run off. Emergency oil spill kit, storm water control and concrete slab.
Water Act No, 54 of 1956	This act states that, all water resources belongs to the State. It prevents pollution and promotes the sustainable utilization of the resource. To protect this resources, this act requires that permits are obtained when activities involve the following; (a) Discharge of contaminated into water sources such as pipe, sewer, canal, sea outfall and (b) Disposal of water in a manner that may cause detrimental impact on the water resources	Prohibition of contaminated water in the water body
Petroleum Product and Energy Act No, 13 of 1990	This Act provides a framework for handling and distribution of petroleum products which may include purchase, sale, supply, acquisition, possession, disposal, storage or transportation thereof.	Safe handling and storage of the fuel
Labour Act No. 6 of 1992	This Act aims to regulate labour in general and includes the protection of the health, safety and welfare of employees. The 1997 Regulations relating to the	No employer shall require or permit an employee to work in an environment that is

Legislation	Summary	Applicability
	Health and Safety of employees at work sets out the duties of the employer, welfare and facilities at the workplace, safety of machinery, hazardous substances, physical hazards, medical provisions, construction safety and electrical safety.	deemed unfit without protective measures in place.
Local Authorities Act, 1992 (Act 23 of 1992)	Provide for the determination, for purposes of local government, of local authority councils; the establishment of such local authority councils; and to define the powers, duties and functions of local authority councils; and to provide for incidental matters.	Adherence to Windhoek Municipality by laws
Hazardous Substances Ordinance No. 14 of 1974	This ordinance gives provision to control the handling of hazardous substance in all circumstances, such as manufacturing, imports and exporting of these to ensure human and environmental safety.	Handling of fuel, Fire and explosion risks
Word's Best Practises	<u>Precautionary Approach Principle</u> This principle is worldwide accepted when there is a lack of sufficient knowledge and information about the possible threats to the environment. Hence if the anticipated impacts are greater, then precautionary approach is applied. In this project, there are no eminent uncertainty however in cases when they arise, this approach should be applied. <u>Polluter Pays Principle</u>	Fuel retail facilities are well document in Namibia. However, fuel contains Volatile Organic Compounds (VOCs) which may be cancerous and their amount that causes cancer are poorly documented. Therefore, precaution must be taken when dispensing fuel to vehicles.

Legislation	Summary	Applicability
	This principle ensures that proponents takes responsibility of their actions. Hence in cases of pollution, the proponent bears the full responsibility to clean up the environment.	In the event of an accident, where spillage may occur, the establishment owner must be responsible to clean up the environment.

Chapter 5. Environmental Management Plan

5.1. Purpose of the EMP

The key objective of this EMP is to ensure that all activities associated with proposed operation of above ground fuel storage at the construction campsite are carried out in an environmentally sustainable and legally compliant manner. It serves as a comprehensive risk management strategy designed to address and mitigate potential environmental impacts associated with the project. It provides a clear logical framework that outlines what needs to be done, how it will be monitored, and the steps to reduce potential negative effects on the environment. It ensures that environmental protection is integrated into every phase, operation, closure and decommissioning in alignment with relevant legal and regulatory requirements.

Furthermore, the EMP clearly defines the roles and responsibilities of all stakeholders involved in the project, including contractors, and regulatory authorities, to ensure accountability, effective implementation of mitigation measures, and continuous environmental performance improvement.

5.2. Compliance to the EMP

This EMP is a legally binding document as given under the provisions of the Environmental Management Act, 2007 (Act No. 7 of 2007). The Proponent and its contractors must adhere to the framework of this document.

5.3. Roles and Responsibilities

To promote accountability, effective implementation of mitigation measures, and continuous environmental performance improvement, it is essential to assign clear delegation of roles and responsibilities across all levels of the project. The following outlines the key roles and their associated responsibilities to ensure the successful implementation of the EMP.

Table 2. Roles and Responsibility

Role	Responsibility
Proponent	1) Overall responsibility for ensuring that the project complies with all environmental legislation and regulations.

	2) Allocate resources and budget for the implementation of the EMP. 3) Appoint an Environmental Control Officer (ECO) to oversee day-to-day environmental management on site. 4) Ensure that the EMP is regularly reviewed and updated to reflect any changes in project scope, legislation, or environmental conditions. 5) Liaise with regulatory authorities and stakeholders to report on environmental performance and address any concerns.
Environmental Compliance Officer (ECO)	1) Monitor and ensure compliance with the EMP, environmental regulations, and site-specific requirements. 2) Conduct regular site inspections to verify the implementation of mitigation measures. 3) Coordinate with project personnel to ensure proper waste management, pollution control, and safety protocols are followed. 4) Prepare regular environmental performance reports, including monitoring results and corrective actions, and submit these reports to the project proponent and relevant authorities. 5) Lead training sessions for project staff on environmental best practices and legal obligations. 6) Act as the primary point of contact for environmental matters and regulatory agencies. 7) Modifying or improving mitigation measures for purposes of corrective action
Site Manager	1) Ensure the project's overall operations are conducted in accordance with the EMP and approved environmental permits. 2) Supervise all exploration activities to ensure they align with environmental guidelines. 3) Work closely with the ECO to implement corrective actions when environmental non-compliance is identified. 4) Ensure that all personnel are appropriately trained in environmental procedures and that they adhere to the safety protocols established in the EMP.

Contractors and Subcontractors	1) Ensure that all contracted activities comply with the EMP and all applicable environmental regulations. 2) Provide their workers with adequate environmental and safety training. 3) Monitor and report on the environmental performance of their activities. 4) Implement mitigation measures specific to their scope of work as outlined in the EMP and ensure that they are properly maintained.
Ministry of Environment, Forestry and Tourism (MEFT)	1) Review and approve the EMP. 2) Conduct inspections and audits to ensure compliance with environmental laws and regulations. 3) Provide oversight and guidance on environmental compliance.

5.4. The EMP table

The EMP is divided into three components-Physical Environment, Biological Environment, and Human Environment-to ensure ease of implementation.

5.5. Construction phase

The construction phase, including the platform and 110% containment wall has been completed, the last phase will be installation of tank on the platform (see Figure 5) and an overhead shade made of corrugated iron canopy.



Figure 5. Fuel Tank Platform and 110% spill containment wall

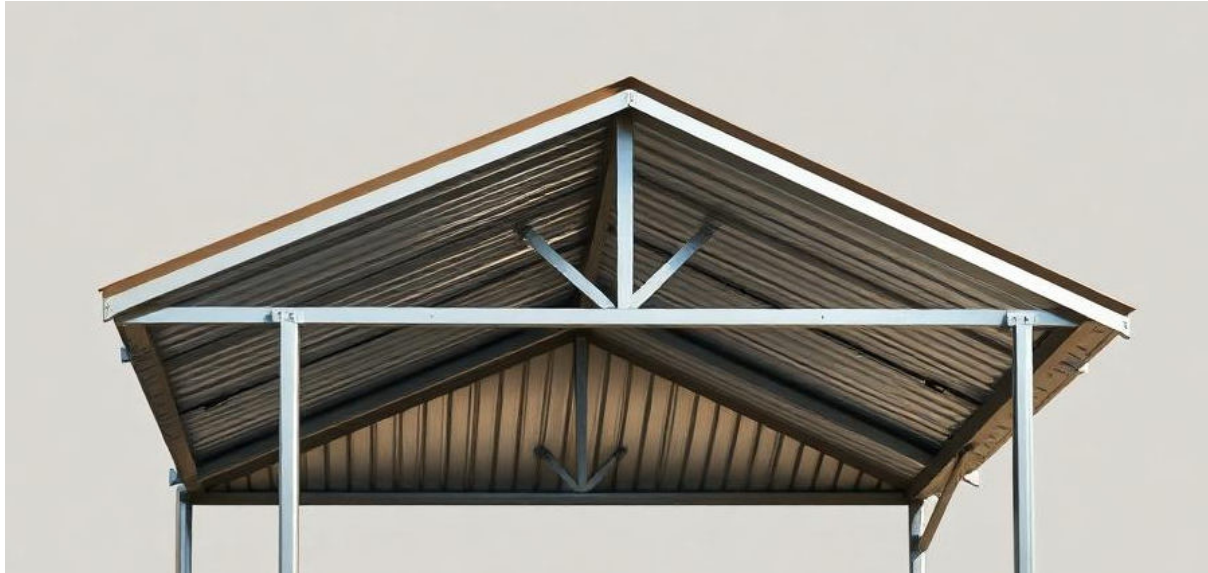


Figure 6. Illustration of the corrugated iron canopy

5.6. Operational phase

5.6.1. Human environment

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
Health	To ensure good health and safety of the employees and public. Fuel releases pollutants such as volatile organic compounds (VOCs) which is known to be harmful on human health. A group known as BTEX (benzene, toluene, ethylbenzene and the three isomers of xylene) is hazardous to human health and the environment. The International Agency for Research on Cancer (IARC) classified benzene as “carcinogenic to humans,” as it causes acute myeloid leukaemia (AML)	1. Abide to the Occupational Health and Safety and Labour Act of Namibia and other statutory requirements such as International Labour Practise (ILO) 2. Train employees on the possible health hazards to avoid potential risks 3. To reduce pressure in the fuel tank, appropriate ventilation systems must be installed and properly maintained. This significantly reduce the pressure from the pump nozzle and consequently reduces the amount inhaled; 4. In the absence of vehicle to be refuelled, workers must not rest next to the tank, this helps in reducing long term exposure to the VOCs;	• Training minutes • Complaints of health issues by employees • Physical inspection	Site Manager

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
		5. Employees at the fuel tank must go for annual health checks ups.		
Safety, Fire and explosion risk	Hydrocarbons are highly flammable, hence the risk of fire and explosion.	1. Provide appropriate Personal Protective Equipment (PPE) to employee which includes helmets, overalls, safety shoes, etc 2. Ensure that every employee goes through an induction course about safety 3. Staff must be properly trained on how to react and handle fire 4. Install an automatic fire alarm system 5. Firefighting equipment must be on site 24hours and regularly inspected to ensure that they are working 6. Emergency response numbers must be on clear and visible space 7. Tanks must clearly be labelled 8. The surrounding must have clear hazard signs “NO OPEN FIRE” “NO SMOKING” “SWITCH ENGINE OFF”	• PPE for all employees • Safety signs on site • Clear emergency toll free numbers (i.e. Police, Fire brigade)	Site Manager

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
		9. There must be drills to test staff about their readiness to fight the fire		

5.6.2. Bio-Physical Environment

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
Vandalism	To prevent vandalism of tanks	1. Maintain the current fence to keep people out of site 2. Hire security to guard the premises	• Physical inspection	Site Manager
Wind risk	To prevent the tank from being blown by the wind	1. Ensure proper tank installation with good quality materials	• Physical inspection	Site Manager
Lightning risk	To prevent the tank from being struck by a lightning	1. Ensure a competent electrician install an anti-lightning material	• Physical inspection	
Oil spills	To prevent oil spill which may result in soil and water pollution	1. Staff must be properly trained to fuel vehicles and handle fuel 2. The fuelling pipes nozzle must be fitted with a spill detector 3. The fuelling tanks must be installed on concrete or metal bund	• Physical inspections	Site Manager

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
		4. The concrete / metal containment must be designed to hold 110% percent of the tank liquid volume 5. Waste water from the cleaning the surface must be disposed of at appropriated site, 6. Provide an oil spill kit on site and train employees on oil spill emergency response such as, oil spill absorbent booms and pads.		
Fuel tanks oil leakage	To prevent fuel leakages from the tank	1. It is recommended to acquire a double walled tank 2. Tanks must have leak detection system 3. Ensure the acquired tank has a lead detection	Physical inspection	Site Manager
Storm water contamination	To prevent surface water contamination.	1. The 110 % concrete / metal containment shall collect water during rain. 2. The water must be disposed off at an appropriate place	Visible concrete containment	Site Manager
Waste Generation	To ensure good housekeeping and prevent littering	1. Provide waste bins for general waste 2. General waste must be separated from hazardous waste;	- Waste bins on site - Physical inspection	Site Manager

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
		3. Hazardous waste must be disposed of at an approved site;		

Chapter 6. Contingency Plan

Contingency measure are preventative mechanism to avoid risk from occurring. With adequate implementation of preventative measures, the chances of risks occurring will be minimized. The following concise mitigation measures are recommended for implementation to avoid oil spills.

6.1. Bulk Fuel from delivery tank

To minimize the potential risks for onsite delivery and storage from delivery truck, the following mitigation measures should be implemented;

- Only use authorised fuel transport companies and individual that meets the required standards to transport fuel
- Transport companies must provide inspection report against tank leakages and all closing ends
- Employees must be properly trained to dispense fuel from the delivery truck into the storage tank
- During dispensing of fuel, the site must be demarcated with a danger tape, and it should be carried out by a competent and experience personnel
- Keep away all flammable objects during dispensing of fuel from the truck to the storage tank
- Punishment for negligence, such as leaving the valve open should be implemented

6.2. On site fuelling of vehicle

- Employees must be properly trained to fuel vehicles and handle fuel
- The fuel tank must be placed at concrete bund to prevent spill seepage
- The fuelling pipes nozzle must be fitted with a spill detector
- The concrete / metal containment must be designed to hold 110% percent of the tank liquid volume
- Waste water from the cleaning the surface must be disposed of at appropriated site,
- There must be an oil spill kit on site and train employees on oil spill emergency response such as, oil spill absorbent booms and pads.

6.3. Tank Leakages

- It is recommended to acquire a double walled tank
- Tanks must have leak detection system
- Ensure the acquired tank has a leak detection

6.4. Fire and Explosion Risk Assessment

Fire and explosion are worse case instantaneous risks in the operation fuel which are highly flammable. Consequently, fire and highly oxidant products must be kept far.

- Staff must be properly trained on how to react and handle fire
- There must be automatic fire alarm system installed at the site
- Firefighting equipment must be on site 24hours and regularly inspected to ensure that they are working
- Emergency response numbers must be on clear and visible space
- There must be clear hazard signs “NO OPEN FIRE” “NO SMOKING” “SWITCH ENGINE OFF”

6.5. Response measures

6.5.1. Minor Spill

- Clean up using oil spill kit provided and report the spill management

6.5.2. Instantaneous Major Spill

- Assess and ensure personal safety on an isolated distance
- Identify the source and cause of spill
- Eliminate all source of heat / fire
- Call the Emergency Response Numbers
- If possible, secure flow at source of spill
- Encircle the site with spill absorbent booms and pads
- In case of fire, use fire extinguisher to put out the fire
- Inform management
- Take proper record of the amount spilled
- Inform Ministry of Environment Forestry and Tourism & Ministry of Mines and Energy and City of Windhoek Municipality

6.5.3. Tank leakages

Leakages are normally minor. After establishing storage tank leakages, the following response mechanisms should be undertaken;

- Use oil spill kit to clean up the leakages
- Inform management to replace work out valves
- Close all valves as required

Chapter 7. Monitoring and Inspection

Monitoring of all equipment is important. Ensure that fire extinguisher are working normally, Storm water system are not blocked, valve are closing properly and the tank is not showing sign or erosion. There must be a daily log book to record risk activities that occurred which outline the extent of severity, causes and action taken to contain the risks. Furthermore, inspection should be carried out as the regulatory requirements.

Chapter 8. Closure / Decommissioning Plan

Closure of an above fuel tank is simple and straight forward as it requires the removal of the tanks from the concrete platform where it is mounted. The following procedures are critical during tank removal.

1. Prior to decommissioning, the proponent must inform the office of the Environmental Commissioner;
2. Ensure that the tank is completely empty of fuel
3. If the tank is being relocated, ensure its proper transportation
4. If the tank is not going to be used, contact authorised scrap yard to collect it for dismantling
5. All work must be supervised by qualified personnel.
6. Workers must be provided with all necessary PPE;
7. All waste generated must be disposed of approved sites;

Chapter 9. Conclusion and Recommendations

1.1. Conclusions

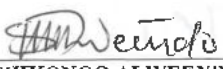
An aboveground fuel tanks are common for business operation involving heavy construction vehicles and equipment. They are the safest when it comes to handling of fuel. The aspect of oil spill, fire risk, tank leakage and land /water pollution are well addressed in the EMP. Henceforth, with the adequate implementation of this EMP, the operation of the proposed fuel tank will not pose any environmental threat.

1.2. Recommendations

This study recommends to the approving authority for the issuance of environmental clearance certificate and management is recommended to ensure adequate implementation of this EMP.

Chapter 10. Annexures

10.1. Annex 1: Consent from Relevant Authority

	Otjozondjupa Regional Council	
Tel: +264 67 303 702 Fax: +264 67 302 760	Head Office Henk Willemsse Street 22;	P.O. Box 1682 Otjiwarongo, Namibia
Enquiries: S.M.K. Tuahuku		3 rd October 2025
Ref. No: 12/1/2-K1		
 Mr. Shen Pan The Managing Director China Jiangxi International Economic and Technical Cooperation Namibia Co. Ltd P.O. Box 32248 Windhoek		
Dear Sir/Madam		
SUBJECT: ALLOCATION OF AN UNSERVED PORTION OF LAND IN KALKFELD SETTLEMENT		
Your application for allocation of land in Kalkfeld Settlement, bears reference.		
The Regional Council during its Special Council Meeting held on the 26 th September 2025, by Resolution Number OTRC SRC-009/26/09/2025/11.2 , approved the allocation of a portion of land measuring 10,000 square meters, for a period of two years from the date of approval.		
You are required to sign a lease agreement and effect payment with effect from the date of approval. The terms and conditions of the lease will be set out in the lease agreement.		
Be assured of our commitment to effective service delivery.		
Yours faithfully		
 MR. SHIKONGO ALWEENDO ACTING CHIEF REGIONAL OFFICER		
		
All official correspondence must be addressed to the Chief Regional Officer		

Chapter 11. References:

1. South African National Standards (SANS)
2. Purdue University, Above ground petroleum tanks (A pictorial guide)