



ABN 45 675 935 798

MCAC CIVIL AND CONTRACTING PTY LTD

ENVIRONMENTAL MANAGEMENT PLAN

PREPARED BY:	SARAH TUOHEY
APPROVED BY:	JOSHUA FINN- DIRECTOR
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Document Control

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V1	Initial Issue for NT EPA EPL application	Joshua Finn

Primary EMP Contact:

Project Manager – Joshua Finn – Managing Director

Phone: 0492 305 307

Email: josh@mcaccivilcontracting.com.au

24-Hour Emergency Contact:

Name: Joshua Finn

Phone: 0492 305 307

These contacts are responsible for incident notification to NT EPA and coordination of emergency response.

This EMP is a controlled document. The Project Manager is responsible for maintaining the current version and ensuring that obsolete versions are archived for a minimum of seven (7) years.

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PROJECT ENVIRONMENTAL MANAGEMENT PLAN V1
**Management of the Collection & Transport of Sewage Sludge and Residues (including nightsoil and
septic tank content)**
ABN 45 675 935 798

1 Introduction

This Environmental Management Plan (EMP) has been prepared by MCAC Civil & Contracting Pty Ltd (MCAC) to support the delivery of potable water supply and wastewater management services for the Uluru–Kata Tjuta Signature Walk (USW) project.

The EMP applies to wastewater collection from Camps 1, 2 and 3 within Uluru-Kata Tjuta National Park, temporary storage and wastewater treatment plant located at Lot 185 Yulara Township, and transport to an approved wastewater receiving facility in Alice Springs.

Wastewater generated at the camps will be removed using sealed vacuum tankers and managed in accordance with Northern Territory environmental legislation and waste tracking requirements. Until the onsite treatment plant at Yulara is constructed and commissioned, wastewater will be transported directly to the Power and Water Corporation wastewater receiving facility in Alice Springs.

Uluru–Kata Tjuta National Park is a jointly managed World Heritage-listed property recognised for its natural and cultural significance. MCAC's operations are therefore designed to prevent or minimise environmental harm and protect environmental values and respect the cultural heritage of Anangu Traditional Owners.

1.1 Purpose of the Environmental Management Plan

The purpose of this EMP is to inform and direct MCAC staff, contractors and key stakeholders in the planning and execution of all wastewater collection, storage, handling, transport and treatment-related activities for the Uluru–Kata Tjuta Signature Walk project. It provides clear guidance on identifying, avoiding and/or minimising environmental impacts and risks associated with listed waste management on Commonwealth land, and must be considered when developing and implementing all related policies, procedures and work method statements for this project.

Protection, preservation, conservation and appropriate presentation of the park's natural and cultural values, and respect for Indigenous Cultural and Intellectual Property (ICIP),

are of paramount importance to MCAC. MCAC recognises the privilege of operating in a culturally strong, jointly managed environment with Anangu Traditional Owners and their partner, Parks Australia, and commits to working collaboratively to ensure that wastewater management activities support the vision and objectives of the Uluru-Kata Tjuta National Park Management Plan 2021.

Environmental management procedures under this EMP adhere to the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*, the *Environment Protection Act 2019 (NT)*, the *Waste Management and Pollution Control Act 1998 (NT)*, relevant codes of practice, and the Uluru-Kata Tjuta National Park Management Plan 2021.

2 Scope

This EMP applies to MCAC's potable water and wastewater activities for the Uluru-Kata Tjuta Signature Walk project during both the interim haulage phase and the operational phase of the water treatment plant.

It covers:

- collection and transfer of sewage and septic waste from Camps 1, 2 and 3
- interim transport of collected waste to the nominated approved wastewater treatment facility in Alice Springs until the onsite water treatment plant is commissioned
- operation of the onsite water treatment plant and associated wastewater and sludge handling infrastructure at Yulara
- operation, cleaning and decontamination of vehicles, plant and equipment used for these activities
- environmental monitoring, reporting and incident response related to the above activities.

This EMP does not apply to:

- construction activities and site works undertaken by other contractors under separate contracts and management plans

- camp accommodation management and village operations
- catering and hospitality operations
- other unrelated site activities managed under separate EMPs or project-specific management plans.

MCAC will only collect, store, transport and dispose of these wastes in accordance with its Environment Protection Licence and trade waste approvals.

3 Our Policy

MCAC Civil & Contracting Pty Ltd is a 100% Indigenous-owned civil construction and contracting business operating across the Northern Territory, including remote works within and around Yulara and Uluru-Kata Tjuṯa National Park. MCAC delivers a broad range of civil construction services and, where required for specific projects, potable water and wastewater collection, transfer, treatment and disposal activities.

MCAC recognises the unique cultural and environmental sensitivity of the Uluru-Kata Tjuṯa National Park, a jointly managed World Heritage-listed area. MCAC is dedicated to preventing pollution, protecting biodiversity, and maintaining respect for Traditional Owners' cultural and environmental values.

Environmental management is a core business objective and an integral part of MCAC's projects, operations, and decision-making processes. MCAC applies the principles of ISO 14001 Environmental Management Systems to ensure risks are effectively managed and continual improvement is achieved.

3.1 Our Commitments

MCAC commits to:

- Compliance: comply with all applicable environmental legislation, regulations, licence conditions, and codes of practice, including NT EPA and Parks Australia requirements.

- Licensing and Agreements: Obtain and maintain appropriate NT EPA wastewater and water treatment licences and trade waste agreements with the Power and Water Corporation.
- Pollution Prevention: Implement proactive systems and controls to prevent spills, leaks, odour, noise, or discharge incidents, and minimise the generation of waste and pollutants.
- Risk Management: Identify, assess, and manage environmental risks in accordance with ISO 31000:2018 Risk Management Guidelines, ensuring timely mitigation and review.
- Resource Efficiency: Optimise energy, water, and material use through efficient design, plant operation, and maintenance practices.
- Continual Improvement: Regularly review environmental performance, audit systems, and drive improvement through corrective action, innovation, and feedback.
- Communication and Consultation: Engage openly with USW, Traditional Owners, regulators, and local communities to promote transparency and cooperation.
- Competency and Training: Ensure all employees, subcontractors, and suppliers are trained, competent, and aware of their environmental obligations and responsibilities.
- Cultural and Environmental Respect: Uphold Traditional Owner values and protect heritage sites by integrating cultural awareness and environmental care into all project activities.

3.2 Responsibilities

All MCAC employees, subcontractors, and visitors must:

- Follow the environmental procedures and controls defined in this EMP and supporting documents.
- Immediately report any environmental incidents, hazards, or non-conformances.
- Perform work in a manner that promotes environmental stewardship and supports MCAC's commitment to continual improvement.

3.3 EMP Objectives



This Environmental Management Plan documents how environmental risks from MCAC's potable water supply and wastewater collection, treatment, transfer and disposal activities will be managed to minimise environmental harm and comply with applicable legislation and licence conditions.

The objectives of this EMP are to:

- Ensure the collection, treatment, storage, transfer and disposal of sewage, septic waste and associated residues from Camps 1–3, and Water Treatment Plant.
- Prevent or minimise releases of contaminants to land, surface water, groundwater and air through effective containment, inspection, maintenance and response controls.
- Manage any temporary storage of wastewater using engineered containment, security and capacity controls that prevent spills, overflows and unauthorised access.

- Manage the transport of wastewater and related wastes to approved treatment or disposal facilities using licensed vehicles, competent personnel and approved haulage routes.
- Prevent off-site contamination by implementing effective cleaning and decontamination procedures for vehicles, plant and equipment before leaving work areas.
- Establish and maintain monitoring, record-keeping, auditing and reporting systems that demonstrate compliance with environmental legislation, NT EPA licence and approval conditions, trade waste agreements and this EMP.
- Maintain emergency preparedness and incident response procedures for spills, leaks, treatment plant malfunctions, power failures and other credible environmental incidents, including timely notification, containment, clean-up and corrective action.
- Support continual improvement in environmental performance by periodically reviewing risks, controls, incidents and monitoring outcomes and updating this EMP as required.

4 Existing Environment

4.1 Location and tenure

Activities covered by this Environmental Management Plan occur in two primary locations:

- Uluru–Kata Tjuta National Park – wastewater collection from Camps 1, 2 and 3 associated with the USW project; and
- Lot 185 Yulara NT – the location of the proposed onsite water and wastewater treatment plant and associated temporary wastewater storage infrastructure.

Works within Uluru–Kata Tjuta National Park occur within approved camp footprints, access tracks and operational areas agreed with USW, Parks Australia and Anangu Traditional Owners. The park is a jointly managed World Heritage-listed Commonwealth reserve located on Aboriginal land and subject to the Uluru-Kata Tjuta National Park Management Plan 2021 and associated environmental and cultural protection requirements.

Wastewater and septic waste generated at Camps 1, 2 and 3 will be collected using sealed vacuum tankers and transported via approved access routes from the camps to Yulara.

At the time of preparation of this EMP, the onsite wastewater treatment plant at Lot 185 Yulara Township, Yulara, NT 0837 is in the procurement and tender phase. Until the plant is constructed and commissioned, wastewater collected from the camps will be transported via approved public road haul routes to the nominated Power and Water Corporation wastewater receiving facility in Alice Springs in accordance with trade waste agreements, waste tracking requirements and relevant regulatory approvals.

Once the onsite treatment plant has been constructed and commissioned, wastewater generated from the camps will be transported to and treated at the Yulara facility in accordance with the plant design specifications, relevant trade waste approvals and any applicable Environment Protection Licence conditions.

4.2 Environmental and cultural sensitivity

Uluru-Kata Tjuṯa National Park is inscribed on the World Heritage List for both its outstanding natural values and its living Anṁangu culture, and contains sensitive habitats, drainage lines, groundwater-dependent ecosystems and sites of high cultural and spiritual significance. The environment and culture are inseparable in this landscape, and disturbance to soils, water, vegetation or access corridors can also affect cultural values and Traditional Owners' connection to Country.

4.3 Climate and natural processes

The region has an arid climate with high temperatures, low but variable rainfall and occasional intense storm events that can cause rapid runoff and localised flooding in drainage lines and low-lying areas. These conditions increase the potential for any spill or leak to be mobilised quickly and influence the design and operation of containment, stormwater management and access controls in this EMP.

4.4 Key receptors

Key receptors include surface soils and landforms, drainage lines and surface water pathways, groundwater resources, native vegetation and fauna, camp users and visitors, road users along haul routes, and Anṁangu cultural and heritage values associated with Country. Controls in this EMP are designed to avoid contamination or disturbance of these receptors, including by confining activities to approved corridors, preventing spills and tracking, and ensuring respectful operation within the jointly managed Park.

5 Description

Activities covered by this EMP occur at Camps 1, 2 and 3 associated with the Uluru-Kata Tjuṯa Signature Walk within Uluru-Kata Tjuṯa National Park, and at the wastewater treatment and storage facility located at Lot 185, Yulara.

Wastewater generated at the camps is removed using sealed vacuum tankers and transported via approved haul routes.

During the interim operational phase, wastewater is stored at the Yulara site in a 40000-litre tanker, prior to be transported monthly to the Power and Water Corporation wastewater receiving facility in Alice Springs.

Once the onsite wastewater treatment plant at Yulara has been constructed and commissioned, wastewater collected from the camps will be transported to the Yulara facility for treatment and disposal in accordance with plant design specifications, trade waste approvals and Environment Protection Licence conditions.

5.1 Key activities covered by this EMP

- Pump-out of septic/wastewater from camp infrastructure at Camps 1, 2 and 3
- Temporary holding (where required) in sealed holding tanks (e.g. semi-trailer mounted tank)
- Transport along approved haul routes to the nominated Power and Water Corporation wastewater facility in Alice Springs
- Operation of the onsite water treatment plant and associated wastewater and sludge handling systems once commissioned
- Disposal of wastewater and residues at approved and authorised waste management facilities in accordance with trade waste approvals and NT EPA licence conditions
- Cleaning and decontamination of vehicles, plant and equipment to prevent offsite contamination and environmental nuisance.

5.2 Key equipment and infrastructure

- Sealed vacuum tanker with engineered fittings, valves and hoses suitable for wastewater transport
- Vacuum Excavation truck with 7kl septic waste holding capacity and 3.5kl of potable water holding capacity.
- A temporary sealed and labelled holding tank (up to 40,000 L capacity) with secondary containment.
- Onsite water treatment plant, including treatment units, storage tanks and sludge handling systems

- Spill response kits carried on vehicles and available at transfer and treatment locations
- Designated washdown area(s) to prevent offsite contamination.

Activities in scope

This EMP applies to the collection, temporary storage, transport, treatment and disposal of sewage sludge and residues (including nightsoil and septic tank contents) and associated wastewater generated at Camps 1, 2 and 3.

Activities include:

- Collection: Pumping wastewater and septic waste from camp tanks and infrastructure using suitable vacuum trucks and associated equipment.
- Transfer/temporary storage: Transfer to approved holding tank, including safe loading, containment, inspection and security controls where used.
- Transport: Selection and operation of suitable vehicles, use of approved transport routes between camps, the Yulara treatment plant and the approved disposal facility/treatment plant, and implementation of contamination prevention measures.
- Treatment and disposal: Treatment of water and wastewater at the onsite water treatment plant once commissioned, and disposal only at approved and authorised waste management facilities in accordance with trade waste approvals and NT EPA licence conditions.
- Cleaning: Vehicle, plant and equipment cleaning and decontamination to prevent offsite contamination and environmental nuisance.

5.3 Works not covered by this EMP

Construction of the water treatment plant and any associated civil works is managed under separate construction management plans and approvals and is outside the scope of this operational EMP. This EMP applies only to the operation of the water treatment plant and associated water and wastewater services.

6 Conceptual Site Model

A Conceptual Site Model (CSM) has been developed to describe potential sources of contamination, release mechanisms, environmental pathways and sensitive receptors associated with MCAC's wastewater collection, temporary storage, transport and treatment activities for the USW project.

The CSM covers the interim haulage of sewage and septic waste to the approved Power and Water Corporation wastewater facility in Alice Springs and, once commissioned, operation of the onsite water treatment plant and associated wastewater and sludge handling systems at Yulara.

A diagrammatic conceptual site model illustrating potential contaminant sources, pathways and receptors associated with the project activities is provided in Figures 1 and 2 below:

FIGURE 1 – Camp Activities

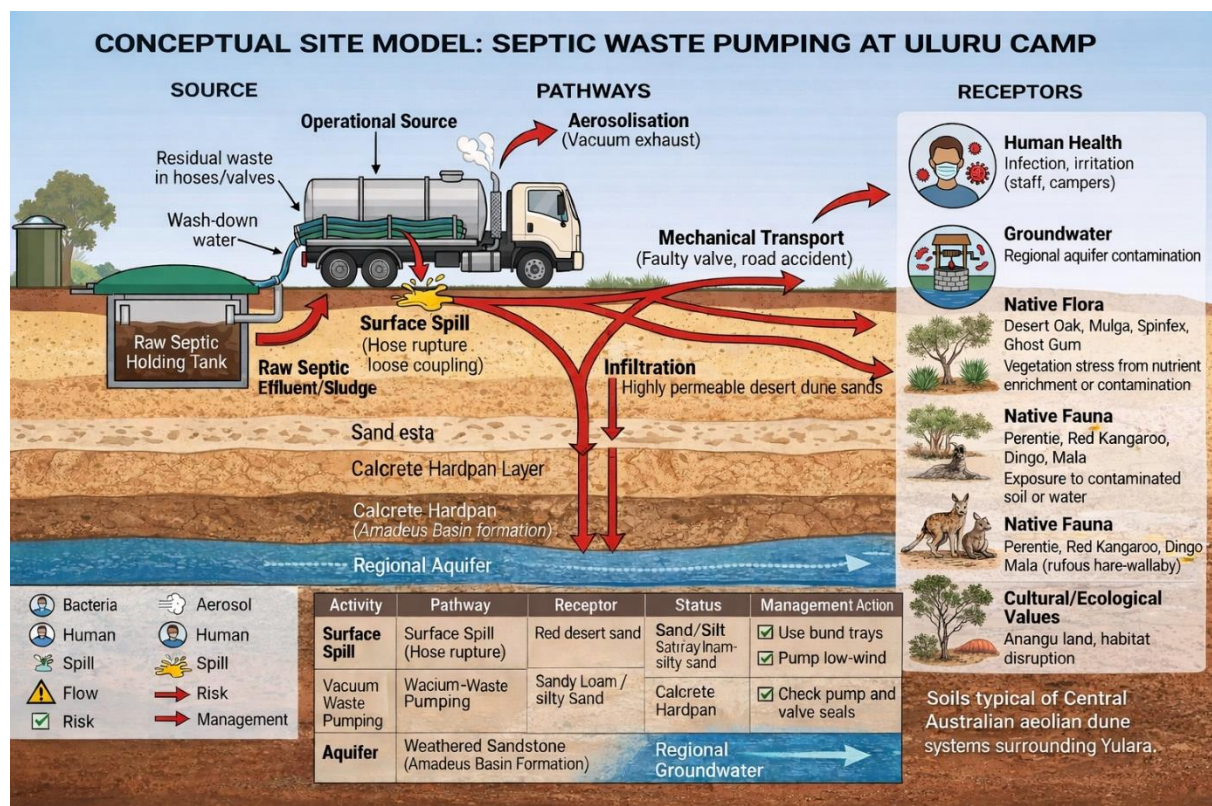


FIGURE 2: - Lot 185 Yulara Township Activities



6.1 Sources

- Sewage sludge and septic tank contents from Camps 1, 2 and 3
- Wastewater from camp tanks and amenities
- Temporary holding tank contents (e.g. 40,000 L semi-trailer mounted holding tank)

- Process wastewater, sludges and treatment residues from the water treatment plant
- Minor amounts of residual Fuels, oils and hydraulic fluids from vehicles and plant
- Cleaning agents and treatment chemicals used in plant and equipment
- Contaminated absorbents or soils resulting from spill response.

6.2 Release mechanisms

- Hose or valve failure during pumping or transfer
- Overfilling of tanks or treatment units
- Coupling failure during transfer
- Tank, pipework or equipment rupture or mechanical damage
- Vehicle rollover or traffic incident along haul routes
- Bund or containment overtopping during rainfall events
- Inadequate washdown containment or uncontrolled washdown water discharge.

6.3 Pathways

- Spills to soil with potential infiltration to sub-surface layers
- Overland flow to drainage lines and surface water pathways during rainfall events
- Infiltration to groundwater via permeable soils and fractures
- Tracking of contaminants via tyres, undercarriage or footwear from work areas to adjacent ground
- Odour or aerosol release to air during handling or spills
- Direct wildlife contact with contaminated water or residues.

6.4 Receptors

- Soils and landforms within Uluru-Kata Tjuta National Park
- Surface water drainage lines and localised runoff pathways

- Groundwater resources underlying camp and plant areas
- Native vegetation and fauna, including wildlife attracted to water sources
- Camp workers, visitors and road users along haul routes
- Cultural and heritage values associated with Anangu Country and sites within the Park.

Control measures described in this EMP are designed to interrupt or minimise these pathways through engineered containment systems, sealed transport, inspection and maintenance protocols, designated washdown areas, spill response capability and controlled treatment or disposal at approved facilities.

7 Responsibility

The Project Manager (PM) is accountable to the Managing Director for implementing and maintaining this EMP and ensuring that MCAC's activities comply with applicable environmental legislation, NT EPA licence conditions and trade waste requirements.

The Project Manager will:

- maintain a current, controlled version of this EMP
- retain obsolete versions for a minimum of seven (7) years to demonstrate environmental management records
- make the current EMP available to employees, subcontractors, regulators, the client and other interested parties as required
- review the EMP at least annually, or earlier if required due to changes in scope, incidents, legislation, licence conditions or identified deficiencies
- oversee implementation of the environmental controls, monitoring and reporting requirements described in this EMP.

The Managing Director approves this EMP and provides overall leadership and resources for its implementation, while Site Supervisors and operational personnel are responsible for day-to-day compliance with the EMP within their areas of responsibility.

7.1 Managing Director

The Managing Director is responsible for providing leadership and resources necessary to support effective environmental management and implementation of this EMP.

Responsibilities include:

- establishing the overall direction of the company's environmental management approach
- approving the Environmental Management Plan and Environmental Policy
- ensuring environmental management systems meet legal and regulatory requirements
- monitoring overall environmental management system performance
- addressing issues identified in environmental audits or compliance reviews
- ensuring appropriate resources, training and support are available to implement this EMP
- supporting continual improvement of environmental management practices.

7.2 Project Manager

The Project Manager is responsible for implementing this EMP and ensuring environmental controls are effectively applied throughout project activities.

Responsibilities include:

- developing environmental objectives, targets and management programs
- maintaining the Environmental Management Plan and associated procedures
- ensuring compliance with NT EPA legislation, licence conditions and trade waste agreements
- communicating environmental requirements to project personnel
- ensuring safe, effective and legally compliant operations that prevent or minimise environmental harm and protect environmental values.
- coordinating environmental monitoring, inspections and record-keeping
- investigating environmental incidents and implementing corrective action
- ensuring personnel are appropriately trained and competent to carry out their duties.

7.3 Site Supervisor

The Site Supervisor is responsible for day-to-day environmental compliance at operational work sites.

Responsibilities include:

- supervising wastewater collection, storage, transport and treatment activities to ensure compliance with this EMP
- ensuring personnel are trained, competent and aware of environmental procedures
- assigning work to qualified staff and monitoring progress of operational activities
- ensuring workers follow environmental procedures, codes of practice and regulatory requirements
- monitoring worksites for potential environmental hazards or non-compliance
- ensuring environmental controls and mitigation measures are implemented
- reporting incidents, hazards or non-conformances to the Project Manager.

8 Environmental Risk Management Summary

Environmental risks associated with MCAC's wastewater collection, temporary storage, transport and treatment activities have been identified and assessed using the Conceptual Site Model described in Section 6 and a structured risk assessment process consistent with AS/NZS ISO 31000:2018 Risk Management Guidelines.

The risk assessment considered the nature and scale of wastewater handling activities, the environmental sensitivity of Uluru-Kata Tjuta National Park, operational conditions associated with remote locations, and the potential for extreme weather events such as intense rainfall.

Risks identified through this process include:

- equipment or hose failure during pump-out operations
- overfilling of tanks or holding systems
- spills during loading, unloading or transport
- vehicle incidents during wastewater transport

- mobilisation of contaminants during rainfall events
- spills of fuels, oils or treatment chemicals.

Environmental control measures described in this EMP are designed to minimise these risks and prevent contaminants from reaching sensitive environmental receptors identified in the Conceptual Site Model.

Key controls include sealed vacuum tankers, pre-start equipment inspections, supervision of transfer operations, spill response capability, approved haul routes, designated wash-down areas and disposal at approved facilities.

Following implementation of these controls, residual environmental risks associated with the project are considered Low to Moderate and acceptable for the nature and scale of the activity.

Environmental monitoring and inspection activities described in Section 15 are used to verify that these controls remain effective and that environmental performance objectives are achieved.

MCAC will notify the NT EPA as soon as practicable and within 24 hours of becoming aware of any incident that causes or threatens material or significant environmental harm, in accordance with the Environment Protection Act 2019 (NT).

8.1 Environmental Management Approach

Environmental management measures described in this EMP are designed to prevent or minimise environmental harm, and protect environmental values, minimise environmental impacts and ensure compliance with relevant legislation and licence conditions.

Key management measures include:

- use of sealed vacuum tankers and engineered fittings for wastewater transport
- pre-start inspection of hoses, couplings, valves and tanks prior to each pump-out operation
- supervision of pumping and transfer operations to prevent overfilling
- temporary storage tanks designed with appropriate containment and inspection procedures

- transport of wastewater only via approved haul routes by trained and licensed drivers
- provision of spill response kits in vehicles and operational areas
- immediate containment and clean-up of any spills or leaks
- designated wash-down areas to prevent tracking of contaminants offsite
- routine inspection and monitoring of operational areas and drainage lines
- disposal only at approved and authorised waste management facilities

These measures are intended to interrupt potential contamination pathways identified in the Conceptual Site Model and ensure environmental risks are effectively managed.

8.2 Monitoring and Continuous Improvement

Environmental monitoring and inspection activities described in this EMP are designed to verify that control measures are functioning effectively and that environmental objectives and performance criteria are being achieved.

Monitoring results, incident reports and audit findings will be reviewed by the Project Manager to identify any required corrective actions and opportunities for improvement.

9 Environmental Management Framework

This EMP forms part of MCAC Civil & Contracting's broader environmental management system and operational controls for water and wastewater services. It establishes site-specific environmental objectives, risk controls, monitoring requirements and reporting obligations for potable water supply, wastewater collection, interim transport to Alice Springs and operation of the onsite water treatment plant associated with the USW project.

The EMP integrates with:

- MCAC WHS Management System
- Project Safe Work Statements (SWS) and procedures
- Spill response procedures
- Training and induction processes

- Environmental incident and complaints registers.

MCAC will implement this EMP through site inductions, operational procedures, training, supervision and routine environmental inspections. All personnel involved in wastewater collection, transport and treatment activities will be made aware of their responsibilities under this EMP. Compliance with this EMP will be monitored by the Project Manager through inspections, incident reporting, monitoring activities and internal audits.

10 Operational Controls

10.1 Waste Collection

MCAC will perform waste collection activities in accordance with NT EPA Environment Protection Licence conditions, relevant WHS procedures and this EMP. Waste collection will be planned and supervised to prevent spills, leaks and nuisance impacts, with consultation with relevant stakeholders and regular review of the Environmental Risk Register.

10.2 Operation of the Onsite Water Treatment Plant

The onsite water treatment plant at Lot 185, Yulara will be operated in accordance with the plant design specifications, trade waste requirements and any applicable Environment Protection Licence conditions.

Wastewater collected from the Uluru–Kata Tjuta Signature Walk camps will be treated within a contained treatment system designed to prevent the uncontrolled release of wastewater, sludge or treatment by-products to land or water.

Key operational controls include:

- operation of the plant within design operating parameters
- routine inspection of treatment units, tanks and associated infrastructure
- monitoring of plant performance indicators and alarms
- maintenance of pumps, pipes, valves and treatment components
- management and disposal only at approved and authorised waste management facilities

- implementation of shutdown and investigation procedures where abnormal operation or alarm conditions occur.

In the event of equipment failure, overflow risk or power interruption, the plant will be isolated where necessary and the issue investigated by trained personnel. Any incident that results in or threatens environmental harm will be managed in accordance with the spill and incident response procedures described in this EMP.

10.3 Acceptance of wastewater prior to transfer

Wastewater and septic waste to be collected, stored, transported and treated by MCAC must:

- be generated from approved Uluru–Kata Tjuta Signature Walk camp infrastructure and not contain unauthorised chemicals or industrial waste
- be acceptable for receipt at the nominated Power and Water Corporation wastewater disposal facility/treatment plant in Alice Springs, or at the onsite water treatment plant, in accordance with relevant trade waste and acceptance criteria
- comply with any specific testing, pre-treatment or approval requirements specified by Power and Water Corporation, the onsite plant design, or the relevant regulator, including provision of any requested sampling or analytical results
- be of a safe level to collect and transport on public roads, consistent with MCAC's Environment Protection Licence to collect and transport listed waste.

10.4 Temporary Storage Controls

Where temporary holding tanks are used:

- tanks will be bunded or otherwise contained to prevent release of wastewater
- tanks will be sealed and clearly labelled
- secondary containment must be provided
- access will be restricted to authorised personnel
- tanks will be inspected daily while in use.

No long-term stockpiling of contaminated material will occur.

10.5 Site Security

Only authorised personnel are permitted on sites and work areas under MCAC's control. Security will be managed through traffic and access management, including barricades, signage and, where required, personnel assigned to control access by authorised and unauthorised persons.

10.6 Transportation

Transport of wastewater from camps and/or holding tanks to an approved Power and Water Corporation wastewater disposal facility or treatment plant must be carried out in accordance with all applicable legislation, permits and Power and Water requirements, including obligations under the *Waste Management and Pollution Control Act 1998 (NT)* and any conditions of the NT EPA licence.

Wastewater will only be discharged at a Power and Water Corporation facility under an approved Trade Waste Agreement and in accordance with all acceptance criteria and site requirements.

Waste will be transported in vehicles and tanks that are designed, constructed and maintained to prevent leaks, spills and odour, and operated by trained, competent MCAC personnel using haul routes approved by USW and relevant land managers.

The following minimum requirements apply:

- Vehicles and tanks used for wastewater transport must comply with relevant regulatory requirements and the conditions of any waste transport licences or permits held by MCAC.
- Drivers must hold appropriate licences, be competent and experienced in wastewater transport, and be familiar with the nominated Power and Water facility access and acceptance requirements.
- All personnel involved in wastewater transport must be inducted into this EMP and relevant SWMS prior to commencing work.

- Haul routes are a combination of bitumen and gravel to collect the waste, pre service road inspection will be completed at least monthly and after significant rain events, having regard to road conditions, traffic, weather and vehicle suitability; any changes to haul routes do not require amendment of this EMP, provided these criteria continue to be met.

In the event of a spill during transport, drivers must:

- Stop safely.
- Isolate the area.
- implement immediate containment measures to prevent the spill reaching drainage lines, waterways or culturally sensitive areas
- Notify their Supervisor immediately.

Notify the NT EPA as soon as practicable and within 24 hours where the incident causes or threatens material or significant environmental harm.

All movements of listed waste will be undertaken in accordance with NT EPA controlled-waste tracking requirements.

*Refer to Section 15 Emergency Response Plan – spills for detailed spill response requirements.

10.7 Cleaning of Vehicles and Equipment

Contaminated Trucks and equipment must be cleaned before leaving site and entering public roadways to avoid contaminants falling onto the roadway and entering stormwater. Wheels, wheel bays, undercarriage and external bodywork will be cleaned using the designated wash-down area(s) as required to remove residual contamination, and cleaning records will be maintained.

10.8 Monitoring and Record Keeping

The Site Supervisor must check the work area each day for any signs or risks of non-compliance with this EMP, focusing on stormwater and wastewater controls. This includes:

- daily inspections of worksites for evidence or risks of non-compliance with this Plan

- daily visual inspections of stormwater runoff discharged from the site to ensure no contaminants are discharged offsite
- additional inspections after heavy rain or significant incidents to confirm that sewage or contaminated water has not entered drainage lines or sensitive areas.

Records will be maintained onsite and made available on request, including:

- site monitoring inspections
- vehicle and equipment cleaning records
- non-conformances and corrective actions
- complaints
- audit results.

11 Environmental Safeguards

This section describes the specific environmental safeguards MCAC will apply to minimise impacts on the natural, cultural and community values of Uluru-Kata Tjuta National Park during wastewater collection, transport and treatment activities.

Community liaison

- Coordinate with USW on how and where visitors or staff may encounter MCAC vehicles and activities (e.g. camp access tracks, laydown areas).
- Use clear signage and verbal notification where works or vehicle activities could affect camp or track users.
- Record any complaints received and provide details to USW within one working day, in accordance with the complaints process in this EMP.

Air quality

Works will be undertaken in a manner that minimises odour, exhaust emissions and dust impacts on nearby receptors.

Controls include:

- keeping tanks, hoses and fittings sealed to minimise odour from sewage and wastewater

- minimising unnecessary idling of vehicles and ensuring engines are serviced regularly to reduce exhaust emissions
- where dust from vehicle movements on unsealed roads becomes an issue, reducing speed and, where practicable, using suitable water sources for dust suppression.

Noise and Vibration

Works will be planned and carried out to minimise noise and vibration impacts on nearby camps, staff and visitors, consistent with Park expectations. Measures include:

- operating plant and vehicles within agreed hours or as specified by USW and land managers
- maintaining vehicles and equipment to minimise noise and vibration, and shutting down engines when not in use where safe to do so
- where high-noise activities are anticipated (e.g. extended vacuum operations near camps), notifying USW and nearby personnel in advance where practicable.

Vegetation and Fauna

All works will be planned and carried out to avoid unnecessary disturbance to native vegetation and fauna within Uluru-Kata Tjuta National Park, recognising its World Heritage-listed natural values.

Controls include:

- restricting all vehicle and equipment movements to designated roads, tracks, camp areas and approved laydown/parking areas
- not clearing vegetation or creating new access tracks without prior approval from USW and relevant land managers
- operators remaining vigilant to avoid fauna (including reptiles and birds), particularly at dawn, dusk and night.

Heritage and Cultural Values

All works must respect and protect the outstanding cultural and World Heritage values of Uluru-Kata Tjuta National Park, which is jointly managed with Anangu Traditional Owners.

Controls include:

- briefing all personnel on the cultural significance of the Uluru-Kata Tjuta region and any no-go or restricted areas identified by USW, Parks Australia or Traditional Owners
- if any item or place is encountered that is suspected to be of cultural or heritage significance, stopping work in the immediate area, protecting it from disturbance and notifying USW immediately for further direction
- ensuring all work activities remain within approved corridors, tracks and sites as agreed with USW and land managers.

All activities will be planned and conducted to avoid damage to Aboriginal sacred sites, in accordance with the *Northern Territory Aboriginal Sacred Sites Act 1989 (NT)* and any Authority Certificates or directions issued by the Aboriginal Areas Protection Authority and Parks Australia

Waste Management

Waste and hazardous materials will be managed to prevent or minimise environmental harm, and protect environmental values and comply with the *Waste Management and Pollution Control Act 1998 (NT)*, Power and Water requirements and this EMP.

Measures include:

- disposing of all general wastes (e.g. packaging, food waste) at approved facilities nominated by USW or the land manager; not burying, burning or leaving waste on site
- storing fuels, oils and chemicals in suitable containers with secondary containment where practicable and keeping spill kits available in vehicles and near refuelling/maintenance areas
- managing contaminated materials (e.g. absorbents, rags, contaminated soil from spill clean-up) as controlled waste and disposing of them via approved facilities

in accordance with the *Waste Management and Pollution Control Act (NT)* and any Power and Water or regulatory requirements.

Hazardous Materials

Hazardous substances and Dangerous Goods (e.g. fuels, oils, cleaning agents and any treatment chemicals) must not be used without reference to the relevant safety data sheet (SDS) to ensure use is in accordance with the manufacturer's instructions.

Requirements include:

- complying with SDS storage requirements, precautions for use (including ventilation and PPE), health effects information and first aid/emergency instructions
- entering all hazardous substances and Dangerous Goods used or stored on site into the site chemical register and ensuring SDS are readily accessible
- ensuring all containers, including decanted containers, are labelled and carry the required risk and safety information
- maintaining a register of hazardous substances and Dangerous Goods (with SDS) at the site office within the WHS&E documentation
- ensuring subcontractors maintain an on-site register and SDS for each substance, and that subcontractor employees are made aware of, and follow, SDS precautions and know how to respond in an emergency involving that substance.

12 Environmental Objectives and Performance Criteria

For each key environmental aspect identified in the risk assessment, this EMP sets environmental objectives and measurable performance criteria consistent with Section 5.10 of the NT EPA Guideline

Environmental Aspect	Environmental Objective	Performance Criteria (measurable)
Sewage/wastewater handling (Camps and	Prevent discharge to land or water	Zero uncontrolled discharge

Environmental Aspect	Environmental Objective	Performance Criteria (measurable)
Treatment plant)		
Transport	Prevent leaks/spills during transport	100% loads transported in sealed tanks; no visible leakage before leaving site
Temporary storage (if used)	Prevent escape of contaminants	Daily inspection completed; no bund overtopping; lids/valves secured
Spill management	Minimise environmental harm	Spill contained and controlled as soon as practicable and immediately where safe to do so
Disposal	Ensure disposal only at approved and authorised waste management facilities.	100% disposal at approved facility in accordance with trade waste acceptance
Nuisance/complaints	Minimise odour/noise impacts	Complaints logged and responded to within 1 working day
Treatment Plant Operation	Prevent overtopping and off-spec discharge	No untreated or off-spec discharge; no uncontrolled overflows from plant tanks or ponds

Monitoring against these criteria is described in Section 16.

12.1 Environmental Management Measures

Aspect	Objective	Performance criteria	Management actions (what will be done)	Timing/frequency	Responsibility	Records
Pump-out/transfer (Camp and Treatment Plant)	Prevent discharge	Zero uncontrolled discharge	Pre-start check hoses/couplings; use drip trays; isolate area; stop work if leak	Before each pump-out	Driver/Operator	Pre-start checklist
Temporary storage	Prevent escape	Daily inspection: valves secured	Bund/secondary containment; lockable fittings; daily inspection; rainfall checks	Daily while in use	Site Supervisor	Daily inspection form
Transport	Prevent leaks/spills	Sealed tanks; no visible leakage	No overfill; secure lids/valves; approved route; spill kit carried	Each load	Driver/Operator	Waste docket + trip log
Washdown	Prevent tracking/contamination	No offsite tracking	Use designated washdown; inspect weekly; fix containment issues	Weekly	Project Manager	Washdown log
Complaints	Minimise nuisance	Response within 1 working day	Log, investigate, implement corrective action, report to USW	On receipt	PM	Complaints register

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Aspect	Objective	Performance criteria	Management actions (what will be done)	Timing/ frequency	Responsibility	Records
Treatment Plant Operation	Prevent over topping or off spec discharge	No untreated or off-spec discharge; no uncontrolled overflows from plant tanks or ponds	Operate plant within design parameters; maintain level alarms and interlocks; conduct routine inspections; implement shutdown and investigation if performance criteria are not met	Continuous operation with daily checks	Supervisor/plant operator	Plant logs; alarm records; inspection checklists

13 Non-Conformance and Corrective Actions

All environmental incidents and non-conformances will be reported immediately to the Site Supervisor and Project Manager. Where an incident causes or threatens material or significant environmental harm, MCAC will notify the NT EPA as soon as practicable and within 24 hours of becoming aware of the incident, in accordance with the *Environment Protection Act 2019 (NT)*.

All incidents will be:

- managed immediately to prevent further harm
- reported internally and externally where required
- investigated to determine root cause
- subject to corrective and preventive actions
- recorded in the Environmental Incident Register
- reviewed to prevent recurrence, with corrective actions tracked to close-out by the Project Manager.

All spills will be reported to the Client Representative within 24 hours.

14 Environmental Management Plan Consultation & Communication

MCAC will maintain open and respectful communication with:

- Uluru–Kata Tjuta Signature Walk Pty Ltd (USW)
- NT EPA and other regulators
- Parks Australia and land managers
- Traditional Owners where required
- Camp users and nearby stakeholders.

Complaints will be:

- logged in a Complaints Register
- investigated promptly
- responded to within one (1) working day, with outcomes communicated to USW where relevant.

Where high-risk or potentially disruptive activities are planned (for example, extended vacuum operations near camps, major tank transfers or significant maintenance at the water treatment plant), USW will be notified in advance where practicable and any additional requirements from Parks Australia or Traditional Owners will be followed.

Workers will receive an environmental and emergency induction (see Appendix C – Induction Record) covering:

- responsibilities and environmental duties
- site rules and reporting requirements
- environmental hazards, spill containment and clean-up
- plant and equipment use, cleaning and refuelling
- key personnel roles and responsibilities in an emergency
- emergency exit locations and evacuation paths
- assembly/muster point locations
- firefighting equipment locations
- written emergency and evacuation procedures relevant to the site.

At the completion of the induction, all staff will sign an induction record confirming they understand the procedures and their responsibilities in the event of an incident or emergency.

15 Emergency Response Plan

MCAC Civil & Contracting's management of environmental and site emergencies for this project focuses on preparedness and effective response, consistent with MCAC's WHS Emergency Management Procedure and this EMP.

All personnel working on site will receive induction covering:

- emergency procedures relevant to the site
- key personnel roles and responsibilities
- emergency exit locations and evacuation paths
- muster/assembly point locations
- firefighting equipment locations
- environmental spill response procedures.

Emergency drills will be conducted periodically to ensure personnel are familiar with evacuation and response procedures.

Fire and Medical Emergencies

In the event of a fire or medical emergency:

- stop work immediately
- assess the situation and remove any persons in immediate danger
- stop the source where it is safe and practicable.
- contact Emergency Services (000) and provide details of the incident and location
- notify the Site Supervisor and Project Manager immediately
- initiate evacuation procedures where required and direct personnel to the designated muster point(s)
- prevent re-entry to the site until it has been declared safe by Emergency Services
- provide first aid where trained and safe to do so

- complete an Incident Report in accordance with MCAC procedures.

The Site Supervisor is responsible for coordinating emergency response on site until Emergency Services arrive. Emergency contact numbers and muster point locations will be displayed at site offices and communicated during induction.

Spills (sewage, fuel, chemicals)

For spills of sewage, wastewater, fuel, oils, chemicals or treatment agents:

- assess the situation and, if necessary, isolate the area and stop the source if it is safe to do so
- use the appropriate spill kit (including sewage spill materials where relevant)
- establish bunding or barriers to prevent the spill reaching waterways, drains or culturally sensitive areas
- refer to the relevant SDS for emergency procedures and first aid requirements
- notify the Supervisor / Site Manager / Foreman as soon as practicable
- implement evacuation if required by site procedures
- contact Emergency Services (000) where there is a risk to people, significant environmental impact or as required by site procedures.

Where a spill causes or threatens material or significant environmental harm, MCAC will notify the NT EPA as soon as practicable and within 24 hours, in accordance with the *Environment Protection Act 2019 (NT)*.

Sharps/Needle Incidents

For sharps or needle incidents:

- do not pick up sharps with bare hands; use appropriate PPE and tools
- place sharps in a rigid, puncture-resistant container and secure the lid
- if injured, immediately wash the area with soap and water, apply a dressing and seek urgent medical advice

- report the incident to the Supervisor and record it in the Incident Register.

Unexpected discovery of Hazardous Materials

If suspected hazardous materials (e.g. asbestos) are discovered:

- stop work immediately
- evacuate and isolate the immediate area
- prevent disturbance of the material
- notify the Supervisor / Site Manager immediately
- arrange assessment by a licensed assessor
- treat the material as hazardous until confirmed otherwise and manage in accordance with regulatory requirements.

16 Environmental Monitoring Plan

Monitoring Objectives

Monitoring will be undertaken to:

- confirm compliance with this EMP and applicable licence and trade waste conditions
- detect any release of sewage, wastewater or treatment residues
- verify that control measures for collection, transport and treatment are effective
- support continual improvement in environmental performance.

Monitoring results will be reviewed by the Project Manager to confirm compliance with performance criteria and identify any trends requiring corrective action.

Monitoring Rationale

Monitoring locations and activities have been selected based on the Conceptual Site Model and the environmental risks identified in the Environmental Risk Register.

Given the sealed wastewater collection and transport system and the absence of land disposal activities, routine groundwater monitoring is not considered necessary for this project. Monitoring therefore focuses on operational containment measures, including inspection of pump-out locations, storage areas, transport equipment and nearby drainage pathways to confirm that wastewater handling activities remain fully contained.

This approach is considered appropriate for the nature and scale of the activity and the engineered containment systems used for wastewater transport

16.1 Monitoring Program

Monitoring activity	Location	Parameters / What is checked	Frequency	Responsibility
Pre-start equipment inspection	At pump-out point	Hoses, couplings, valves, seals, tanker integrity	Before each pump-out	Driver / Operator
Transfer area inspection (if holding tank used)	Holding tank and bund	Signs of leaks, bund integrity, labels, access controls	Daily while in use	Site Supervisor
Visual check for discharges	Camp areas and nearby drainage	Evidence of spills, staining, odour, tracking	Daily during operations	Site Supervisor
Post-rain inspection	Drainage lines near camps/transfer areas and around the treatment plant	Evidence of contaminated runoff or seepage	After heavy rain	Site Supervisor
Washdown inspection	Washdown area	Evidence of tracking offsite, washdown containment	Weekly	Project Manager

Monitoring activity	Location	Parameters / What is checked	Frequency	Responsibility
Records review	Site office	Completeness of inspection forms, disposal dockets	Monthly	Project Manager

Data Quality and Record Keeping

MCAC will use standard inspection forms for all monitoring activities. Records will be signed, retained for at least seven (7) years and made available to the NT EPA upon request.

Auditing

EMP audits will verify whether activities:

- comply with this EMP and relevant approvals
- have been implemented and maintained as described
- have effectively closed out outstanding actions and non-conformances.

Audit Schedule

EMP audits will verify whether activities:

- comply with this EMP and relevant approvals
- have been implemented and maintained as described
- have effectively closed out outstanding actions and non-conformances

Reporting

MCAC will:

- notify the NT EPA as soon as practicable and within 24 hours of becoming aware of a notifiable incident
- document incidents and corrective actions in an Environmental Incident Register

- provide reports to USW, NT EPA and other regulators as required by licence conditions and approvals

EMP Review

This EMP will be reviewed:

- at least annually
- following an environmental incident that results in, or has the potential to result in, material or significant environmental harm
- following audit findings that indicate deficiencies in controls or implementation
- where licence conditions, approvals or the scope of activities change in a way that affects environmental risks or controls.

17 Environmental Commitments

MCAC Civil & Contracting Pty Ltd commits to implementing the environmental management measures described in this EMP and ensuring that all personnel, contractors and subcontractors working under its control understand and comply with its requirements.

MCAC will ensure that sufficient personnel, resources, training and supervision are provided to implement the environmental controls, monitoring activities and reporting obligations described in this EMP.

Environmental performance will be reviewed periodically and corrective actions implemented where required to ensure compliance with relevant legislation, licence conditions and project approvals.

18 Legislation

MCAC will comply with all applicable legislation, regulations, licence conditions, approvals, codes, guidelines and client/land manager requirements relevant to the collection, temporary storage (if used), transport, treatment and disposal of sewage sludge and residues (including nightsoil and septic tank contents) and associated wastewater.

This includes, but is not limited to, the following.

Northern Territory legislation (primary environmental and waste controls)

- [Waste Management and Pollution Control Act 1998 \(NT\)](#)
- [Waste Management and Pollution Control \(Administration\) Regulations 1998 \(NT\)](#)
- [Environment Protection Act 2019 \(NT\)](#)
- [Environment Protection Regulations 2020 \(NT\)](#)
- [Northern Territory Environment Protection Authority Act 2012 \(NT\)](#)
- [Water Act 1992 \(NT\)](#)
- [Transport of Dangerous Goods by Road and Rail \(National Uniform Legislation\) Act 2010 \(NT\)](#)
- [Transport of Dangerous Goods by Road and Rail \(National Uniform Legislation\) Regulations 2011 \(NT\)](#)
- [Northern Territory Aboriginal Sacred Sites Act 1989 \(NT\)](#)
- [Heritage Act 2011 \(NT\)](#)

Commonwealth legislation and park requirements

- [Environment Protection and Biodiversity Conservation Act 1999 \(Cth\)](#)
- [Uluru-Kata Tjuta National Park Management Plan 2021 \(Cth\)](#)

Client / disposal facility requirements

- Power and Water Corporation – Trade Waste Agreement conditions and acceptance criteria
- Any USW / Parks Australia / land manager permit conditions applicable to access routes, work hours, restricted areas, and environmental/cultural protection requirements.

MCAC will maintain a register of applicable obligations and ensure this EMP and all project procedures remain consistent with the current versions of relevant instruments and any NT EPA licence conditions once issued.

18.1 Legal and Other Obligations Register (summary)

Instrument / Requirement	Key obligation	How addressed in this EMP
Environment Protection Act 2019 (NT)	Duty to notify material/significant environmental harm	Section 13 – Non-Conformance and Corrective Actions (incident reporting) Section 15 – Emergency Response Plan
WMPC Act 1998 (NT) / EPL conditions	Comply with licence conditions	Section 8 – Environmental Risk Management Summary Section 10 – Operational Controls Section 16 – Environmental Monitoring Plan
Water Act 1992 (NT)	Prevent contamination of water resources	Section 6 – Conceptual Site Model (pathways to water) Section 8 – Risk management Section 10 – Operational controls Section 16 – Monitoring
PWC Trade Waste Agreement	Meet acceptance criteria and disposal requirements	Section 5 – Description of treatment/disposal Section 10 – Operational controls Section 16 – Monitoring

Instrument / Requirement	Key obligation	How addressed in this EMP
Park/land manager requirements	Restricted areas, access routes, hours	Section 10 – Operational controls Section 11 – Environmental safeguards Section 14 – Consultation & communication
Northern Territory Aboriginal Sacred Sites Act 1989 (NT)	Protection of Aboriginal sacred sites, including offences for unauthorised entry, use or damage; obtain and comply with any Authority Certificates and conditions issued by the Aboriginal Areas Protection Authority (AAPA) and follow Parks Australia and Traditional Owner directions about sacred sites and no-go areas	Section 11

19 ENVIRONMENTAL RISK REGISTER

Appendix A – Risk Assessment

To manage environmental risks and comply with duties and obligations under Northern Territory environmental legislation (including the Environment Protection Act 2019 (NT) and the Waste Management and Pollution Control Act 1998 (NT)), MCAC identifies environmental hazards, assesses risks and implements controls to eliminate or minimise residual risk for its potable water and wastewater operations.

In accordance with AS/NZS ISO 31000:2018 Risk Management – Guidelines, a project-specific hazard identification and risk assessment has been undertaken to assess and manage the risks posed to the environment by wastewater collection, temporary storage, transport and treatment activities covered by this EMP. Unmitigated project-specific environmental hazards have been assessed in the Environmental Risk Register using likelihood levels, consequence levels and risk criteria based on AS/NZS ISO 31000:2018, as shown in the tables in **Appendix A**.

Where the likelihood and consequence of risks relating to one hazard varied, the most conservative combination has been used. It is MCAC's responsibility to ensure the identified residual risks documented in the Risk Register are monitored, periodically reassessed and further mitigated where required through the controls and review processes described in this EMP.

20 Risk Matrix

The following risk matrix and likelihood ratings have been used to assess inherent and residual environmental risks in the Environmental Risk Register, consistent with AS/NZS ISO 31000:2018

CONSEQUENCE					
	1	2	3	4	5
E	MEDIUM 10	MEDIUM 12	HIGH 17	EXTREME 23	EXTREME 25
D	LOW 6	MEDIUM 11	HIGH 16	VERY HIGH 20	EXTREME 24
C	LOW 4	LOW 7	HIGH 15	VERY HIGH 19	VERY HIGH 22
B	LOW 2	LOW 5	MEDIUM 9	HIGH 14	VERY HIGH 21
A	LOW 1	LOW 3	MEDIUM 8	HIGH 13	HIGH 18

Likelihood Rating	Description
E - Almost Certain	The event is expected to occur in most circumstances <i>At least once every year</i>
D - Likely	The event will probably occur in most circumstances <i>Once every 2 – 5 years</i>
C – Moderate	The event might occur at some time <i>Once every 5 – 10 years</i>
B – Unlikely	The event could occur at some time <i>Once every 10 -30 years</i>
A – Rare	The event could occur only in exceptional circumstances <i>Once every 30 years or greater</i>

21 Scope of Risk Assessment:

This risk assessment covers the collection, temporary storage, transport, treatment and disposal of sewage sludge and residues (including nightsoil and septic tank contents) and associated wastewater generated at Uluru–Kata Tjuta Signature Walk Camps 1, 2 and 3. It includes pumping from camp tanks and infrastructure, transfer to any temporary holding tank(s), interim transport by vacuum truck/semi-trailer along approved haul routes to the nominated Power and Water Corporation wastewater disposal/treatment facility in Alice Springs, operation of the onsite water treatment plant and associated sludge handling systems at Yulara once commissioned, and associated fuel and chemical use, and vehicle/equipment cleaning and decontamination activities.

Method:

- collection of sewage and wastewater from camp tanks and associated infrastructure using vacuum trucks and pumps
- transfer of collected waste into sealed, labelled holding tank(s) (e.g. 40,000 litre semi-trailer mounted tank) where temporary storage is required
- transport of sewage and wastewater in sealed vacuum tankers/holding tank along approved haul routes to the nominated Power and Water Corporation wastewater disposal/treatment facility
- operation of the onsite water treatment plant in accordance with design and licence/trade waste requirements
- use, storage and handling of fuels, oils and any treatment chemicals in accordance with safety data sheets (SDS) and site procedures
- cleaning and decontamination of vehicles, tanks, hoses and equipment at designated locations to prevent offsite contamination

22 Appendix A

Hazard	Initial risk rating	Initial Risk (Score – Rating)	Management Measures / Controls	Residual Risk	Residual Risk (Score – Rating)
Hose or coupling failure during pump-out	C3	15 – High	Pre-start inspections of trucks, pumps and hoses; trained operators; use of drip trays and temporary bunding where practicable; immediate containment and clean-up procedures for spills	B2	5 – Low
Overfilling of tanker or holding tank	C3	15 – High	Level monitoring; no unattended filling; use of high-level alarm where fitted; shut-off procedures and supervision during filling and decanting	A2	3 – Low
Valve left open / incorrect connection	C3	15 – High	Pre-departure checklist; visual inspection of valves, caps and connections before leaving site; clear labelling of valves and lines	B2	5 – Low
Temporary storage bund failure	C4	19 – Very High	Bunding sized to contain at least 110% of largest tank; daily inspections; checks after rainfall events; no long-term storage in temporary tanks	B2	5 – Low
Vehicle rollover during transport	D4	20 – Extreme	Use of approved haul routes; trained and licensed drivers; vehicle speed and fatigue management; scheduled maintenance; spill kits and emergency contact details onboard	C2	7 – Low
Slow leak during transport	C3	15 – High	Pre-trip inspections; sealed tanks and fittings; valves locked/secured closed during travel; periodic checks at rest stops	B2	5 – Low
Spill reaching drainage lines	C4	19 – Very High	Immediate spill containment; use of booms/bunds to divert away from drainage lines; clean-up to approved disposal point; post-rain inspections of haul route and work areas	B2	5 – Low
Tracking contamination offsite	C2	7 – Low	Designated wash-down area with sediment capture; cleaning of vehicles, tanks and hoses before leaving work area; weekly inspection; cleaning records retained	A2	3 – Low
Odour nuisance at camps	C2	7 – Low	Use of sealed tanks and connections; minimise idling near camps; prompt clean-up of spills; complaint response procedure including investigation and corrective actions	B1	2 – Low
Inappropriate waste accepted	C3	15 – High	Waste acceptance checks; verification against trade waste/environmental approval; reject and record non-conforming loads; notification to Power and Water where required	B2	5 – Low

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Disposal at incorrect facility	C3	15 – High	Disposal only at nominated Power and Water Corporation facility; drivers provided clear instructions and maps; documentation and docket checks	A2	3 – Low
Hazardous materials storage (fuel/oils)	C3	15 – High	Secondary containment/bunding; storage in accordance with SDS and legislation; spill kits available and stocked; refuelling only at designated locations	B2	5 – Low
Extreme weather event during operations	D4	20 – Extreme	Weather monitoring; suspend non-essential operations during severe events; secure tanks and equipment; increased inspections of storage and haul routes following events	C2	7 - Low

Residual Risk Acceptability

Residual risks rated **Low** are considered acceptable given the engineered containment systems, sealed vacuum tankers, inspection and spill response regime, disposal only at approved facilities, and regulatory oversight under the Environment Protection Licence. Conservative likelihood ratings have been used to account for uncertainty (including extreme weather and unforeseen mechanical failure), and residual risks will be monitored and reassessed through ongoing EMP review.

Statement of Commitment

MCAC Civil & Contracting Pty Ltd is committed to the full implementation of this Environmental Management Plan and to ensuring that all personnel, contractors and subcontractors comply with its requirements. This EMP will be made available to regulators upon request and will be reviewed and updated in accordance with regulations and recorded in register to reflect operational changes or licence conditions.

MCAC acknowledges that failure to comply with this EMP or any conditions of the Environment Protection Licence may constitute an offence under applicable environmental legislation.

23 Appendix B – Training and Competency Records

TRAINING AND COMPETENCIES					
		NUMBER/TYPE	CHECKED		
WHITE CARD:			☐	OCHRE CARD:	
HIGH RISK:			☐	TRADE QUAL:	
INDUCTION		INSTRUCTION			INITIAL
CONTACT/CONSULTATION		Advise site contact / access to legislation / toolbox talk			
SITE TOUR		Amenities / Lunch Room / Services / Toilets/ Parking/ Access to Legislation / Critical Incident Counselling EASA 1800 193 123			
EMERGENCY PROCEDURES		Emergency procedure / Environmental Procedures / location of muster point			
FIRST AID / FIRE		Locations of First aid kits/First aiders/Fire extinguishers			
ENVIRONMENTAL MANAGEMENT		Environmental Procedures/ Responsibilities / Containment / Spill Kits / Reporting			
RESTRICTED AREAS		Explain areas to access and those that are restricted/ NO bad language/water main/Work area			
INCIDENT/HAZARD REPORTING		All incidents/hazards including near miss must be reported			
SITE SPECIFIC RULES		Indigenous community / working near children			
PPE		Hi vis shirt/vest, Steel caps, Hard hat – eye, hand, respiratory protection			
SWMS		All workers read understand and are signed on to SWMS			
HAZARDS TO BE AWARE OF		SITE RULES			INITIAL
MOBILE PLANT		Prestart on plant before use, report all issues to Supervisor, licensed to operate plant, stay safe distance & in line of site, communicate with operator, adhere to TMP			
ELECTRICAL/EQUIPMENT		3 Monthly test and tag, check equipment prior to use, guarding in place, warn others in area of noise/ dust, leads off ground, use welding screens			
FALL FROM HEIGHT		DO NOT access any unprotected edges, use platform ladders, use harness, DO NOT modify scaffold, Report live edges			
FALLING OBJECTS		Isolate below work areas, wear hard hat, keep items away from edges			
HOUSEKEEPING		Clean as you go, keep access ways clear, use bins			
HAZARDOUS SUBSTANCES		Use non-hazardous substance, wear PPE, ventilated area, SDS, wash hands after use			
MANUAL HANDLING		Use mechanical aids, Use team lifts, correct lifting techniques – straight back, bent knees, loads to body, lift within your capacity			
EXCAVATION		Isolate work areas with barriers, bench/batter/shore as required			