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DRAFT

ENVIRONMENTAL MANAGEMENT PROGRAMME

**Organic Fish Aquaculture Project, Farm 369 Portion 691,
Boschkop, Tshwane, Gauteng, South Africa.**

MAY 2017

Prepared for:

Organic Fish Direct

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1 INTRODUCTION

1.1 PROJECT LOCALITY AND BACKGROUND

Organic Fish Direct at present is conducting aquaculture activities at the project site located on Portion 691 of Farm 369, Boschkop, Tshwane (**Figure 1**). The site is located approximately 9.5 km south-bound along the R631, measured from the intersection of the R631 and M6 roads.



Figure 1: Location of the Organic Fish Aquaculture Project site in Tshwane.

The Organic Fish Aquaculture project proposes to expand the current activities on the site to facilitate the increase of the current aquaculture activities to a capacity of 200 tons (t), expansion of the size of the current greenhouses by more than 2000 m² and the implementation of a waste system to convert fish and plant waste to fertiliser. Recirculating Aquaculture Systems (RAS) technology will be applied to accommodate a proven biocompatible water purification filtration and cooling system that is part of the circulation between production tanks and the system pump(s). Holistically, this project would thus consist of three fish farm facilities (1800 m² total approximate area), 12 greenhouses (5250 m² total approximate area), one building for processing, storage, ablutions and living quarters (375 m² total approximate area) and the construction of an internal access road measuring 700 m (4000 m² total approximate area). The total footprint of this project's activities would be approximately 1.1 ha out of the total property size of 4.3 ha. Internal site traffic circulation will be by means of a 6 m wide paved road and 5 m wide dirt roads between structures/buildings. No new access road is required and there is an existing dirt access road from the R631 onto the property.

1.2 THE AFFECTED ENVIRONMENT AND ANTICIPATED ENVIRONMENTAL IMPACTS

1.2.1 Physical Environment

The gradient of the project site is described as being generally flat. There is a river which runs adjacent to the north-eastern boundary of the property. The Basic Assessment compiled for this project indicated that the site is not located on any sensitive groundwater, soil and geological features.

The agricultural potential of the project site has been described as portraying low potential. Land-cover within the site has been determined to consist largely of previously cultivated lands (75% of total area), existing buildings and associated infrastructure (10% of total area), areas of bare soil (10% of total area) and a small area of natural veld with scattered aliens (5% of total area).

No rare or endangered flora or fauna species are present on or within close proximity of the site. There are also no special or sensitive habitats or natural features present on the project site. The SANBI Biodiversity GIS site was consulted in determining if the site falls within any Critical Biodiversity Areas, and a small section of the eastern portion of the site bordering the river was depicted as an Ecological Support Area. Having said this, the development footprint would be outside of this delineated area.

1.2.2. Surrounding Land-use, Socio-economic Context and Cultural/Historical Features

Land-uses surrounding the property are agricultural and low density residential areas to the North, a river to the East, low density residential areas to the South and agricultural areas to the West. The socio-economic context of the project local is categorised as low population densities with mostly mid-high income groups due to the rural location of the project site and the predominant surrounding land-use of agriculture. No evidence of culturally or historically significant elements is noted on the property.

1.3 BACKGROUND TO THE ENVIRONMENTAL MANAGEMENT PROGRAMME

Ecosense CC was appointed to compile the EMPr for this project, whose principal member M. Sasman is registered with SACNASP (400185/04) and has extensive experience in the compilation of EMPr's, including aquaculture projects. This EMPr is a requirement under the National Environmental Management Act (NEMA) Environmental Impact Assessment Regulations of December 2014, as amended, and fulfils the requirements per Appendix 4 of the EIA Regulations. This Environmental Management Programme (EMPr) thus sets out the management procedures that seek to avoid or minimize the potential negative impacts anticipated or to maintain or improve the quality of the surrounding natural and man-made environment during the course of the of the project.

Table 1: EMPr Requirements Reference Table.

CONTENT OF ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)	SECTION REFERENCE
1. An EMPr must comply with section 24N of the Act and include:	
(a) details of: (i) the EAP who prepared the EMPr; and (ii) the expertise of that EAP to prepare an EMPr, including a curriculum vitae;	Section 1.3 & EMPr Appendix 4.
(b) a detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description;	Section 1.1, 1.2 & 1.5.
(c) a map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that any areas that should be avoided, including buffers;	EMPr Figure 1 & EMPr Appendix 1.
(d) a description of the impact management objectives, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all phases of the development including:	
(i) planning and design;	Section 3.
(ii) pre-construction activities;	N/A.
(iii) construction activities;	Section 4.

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(iv) rehabilitation of the environment after construction and where applicable post closure; and	Section 4.12.13.
(v) where relevant, operation activities;	Section 5.
(e) a description and identification of impact management outcomes required for the aspects contemplated in paragraph (d);	Point 3 Objectives under each Management Specifications in Sections 4.12 & 5.7.
(f) a description of proposed impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (d) and (e) will be achieved, and must, where applicable, include actions to:	
(i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;	Point 5 Procedures under each Management Specification in Sections 4.12 & 5.7.
(ii) comply with any prescribed environmental management standards or practices;	Point 1 Legislated Requirements under each Management Specification in Sections 4.12 & 5.7.
(iii) comply with any applicable provisions of the Act regarding closure, where applicable; and	
(iv) comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable;	
(g) the method of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Sections 2.5, 4.3 & 5.5. Point 6 Monitoring and Reporting under each Management Specifications in Sections 4.12 & 5.7.
(h) the frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Sections 2.5, 4.3 & 5.5. Point 6 Monitoring and Reporting under each Management Specifications in Sections 4.12 & 5.7.
(i) an indication of the persons who will be responsible for the implementation of the impact management actions;	Point 7 Responsibilities under each Management Specifications in Sections 4.12 & 5.7.
(j) the time periods within which the impact management actions contemplated in paragraph (f) must be implemented;	Where required, time periods are listed under the Management Specifications in Sections 4.12 & 5.7.
(k) the mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);	Sections 2.5, 4.3 & 5.5. Point 6 Monitoring and Reporting under each Management Specifications in Sections 4.12 & 5.7.
(l) a program for reporting on compliance, taking into account the requirements as prescribed by the Regulations;	
(m) an environmental awareness plan describing the manner in which:	
(i) the applicant intends to inform his or her employees of any environmental	Environmental induction/awareness

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<p>risk which may result from their work; and</p> <p>(ii) risks must be dealt with in order to avoid pollution or the degradation of the environment; and</p>	<p>training shall be conducted by the appointed environmental personnel, as well as in the daily toolbox talks.</p> <p>Section 4.2.8 Environmental Education Programme. CEMP Appendix 2 – Basic Environmental Education Content. The Management Specifications under Sections 4.12 & 5.7 should also be elaborated on.</p>
<p>(n) any specific information that may be required by the competent authority.</p>	<p>Sections 2, 4.2, 4.8, 4.9, 4.10, 5.2, 5.4 and 6. Point 6 Monitoring and Reporting under each Management Specification in Sections 4.12 & 5.7.</p>

1.4 OBJECTIVES OF THE ENVIRONMENTAL MANAGEMENT PROGRAMME

This EMPr aims to achieve the following objectives:

- To set out the mitigation measures and environmental specifications which are required to be implemented in order to ensure that potential negative impacts on the environment are minimised and positive impacts maximised;
- To provide a structure within which the environmental management requirements will be implemented, audited and reported on;
- To state standards and guidelines that are required to be achieved in terms of environmental legislation and authorization conditions; and
- To provide a clear indication of the environmental management requirements of each of the role players involved.

1.5 FORMAT AND STRUCTURE OF THE ENVIRONMENTAL MANAGEMENT PROGRAMME

This EMPr has been divided into a number of sections, as indicated in **Table 2**.

Table 2: Structure of the Environmental Management Programme.

Section 1	Introduction	Provides background information regarding the site, the proposed project and the EMPr.
Section 2	Implementation of the EMPr	Provides details regarding implementation of the EMPr.
Section 3	Planning and design phase environmental management	Provides environmental requirements for the planning and design phase of the project.
Section 4	Construction phase Environmental Management Plan (CEMP)	Provides a set of environmental management procedures to be implemented during the construction phase of the project.
Section 5	Operational phase Environmental Management Plan (OEMP)	Provides a set of environmental management procedures to be implemented during the operational phase of the project. Additional procedures can be added as required.
Section 6	Decommissioning phase requirements	Provides environmental requirements for the decommissioning phase of the project (if/when this is considered).
Section 7	References	References other professional's documents used to source information background to this EMPr.
Section 8	EMPr Appendices	Provides relevant appendixes to the EMPr.

1.6 INTERPRETATIONS

General abbreviations and definitions utilised in this EMPr are listed in **Table 3**.

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Table 3: General abbreviations and definitions utilised in the EMPr.

DAFF	Department of Agriculture, Forestry and Fisheries.
EMPr	Environmental Management Programme.
MSDS	Material Safety Data Sheet.
GDARD	Gauteng Department of Agriculture and Rural Development
Organic Fish Direct	Proponent / developer.
Licensed Landfill Site	Dumpsite for waste that has been licensed in terms of the National Environmental Management: Waste Act 59 of 2008, or has been permitted under previous legislation, i.e. Environment Conservation Act 73 of 1989; National Water Act 36 of 1998.
Environment	The aggregate of surrounding objects, conditions and influences that influence the life and habits of man or any other organism or collection of organisms.
Site	The boundary and extent of project operations and infrastructure.
Site Operations Manager	The manager employed to the project to oversee day to day operations on the project site.

2 IMPLEMENTATION OF THE ENVIRONMENTAL MANAGEMENT PROGRAMME

This EMPr document describes mitigation measures in detail, identifying specific people or organisations to undertake specific tasks, in order to ensure that negative impacts on the environment are minimised and positive impacts are optimized during the various project phases. This EMPr includes all relevant documentation contained or referred to within it, along with any amendments, annexures or appendices to this document.

2.1 KEY LEGISLATION APPLICABLE TO THE PROJECT

The following is a list of key laws that are applicable to the project. All relevant approvals and permits, or any other management requirements in terms of this, or any other legislation applicable to the project, as well as any future amendments to such legislation, are to be complied with. It should be noted that this is not a comprehensive list of all legislation that may apply, only those deemed most relevant to this context.

TABLE 4: Applicable Environmental Legislation.

ACT, ORDINANCE, BY-LAW	SECTION	DESCRIPTION	RELEVANCE TO THIS PROJECT
National Environmental Management Act (No. 107 of 1998).	28(1)	Duty of Care responsibilities.	Responsible for the duty of care of natural assets.
NEMA Environmental Impact Assessment Regulations and listed Activities (2017).	Listing Notice 1	Activities requiring authorisation.	The expansion of aquaculture activities exceeds the threshold and authorisation must be applied for.
National Water Act (No.36 of 1998).	21	Water use.	Irrigation with effluent.
National Environmental Management: Waste Act (No 59 of 2008).	Chapter 4 Part 3 and 5	Regulates waste management in order to protect health and the environment.	Management of waste on site.
Occupational Health and Safety Act (No 85 of 1993).	All	Primarily aimed at ensuring the health and safety of persons at work, and visitors. Specifies the basic systems that need to be in place and measures that need to be taken.	Site staff and visitors need to be protected from health and safety risks.
Hazardous Chemical Substances regulations (25 August 1995).	9A(1)	Storage and handling of hazardous chemical substances.	Need to ensure the safety of people working with hazardous chemicals (specifically fuels), as well as safe storage, use and disposal of containers.
Transvaal Nature Conservation Ordinance, 12 of 1983		This Ordinance is applicable in Gauteng, Mpumalanga and parts of the North-West Province.	It imposes permitting requirements in relation to Trout and the building of trout dams.

2.2 FINANCING OF ENVIRONMENTAL CONTROL

The implementation of the environmental control requirements outlined in this document shall be financed by the proponent, Organic Fish Direct.

2.3 REVIEW OF THE ENVIRONMENTAL MANAGEMENT PROGRAMME

The management procedures contained in the EMPr may need to be amended to ensure that the environmental management requirements of the document remain relevant to the site conditions and in light of experience gained on the project.

All proposed amendments shall be tabled by the Organic Fish Direct Project Manager to GDARDGDARD and DAFF for approval prior to changes being made to the EMPr.

2.4. MONITORING AND AUDITING

The implementation of the environmental management plans (CEMP and OEMP) contained in this EMPr must be monitored and externally audited as detailed in each of those plans, to ensure that the management specifications are correctly implemented and that there is proper record keeping and reporting to support this.

3 PLANNING AND DESIGN PHASE REQUIREMENTS

3.1 PLANNING PHASE

Adequate planning is crucial to the success of the project as a whole. As part of the planning phase the following are to be considered by the project planning team:

- Topography;
- Climate;
- Natural ecosystems (flora and fauna);
- Cultural and historical landscapes and archaeological sites (if applicable);
- Planning and environmental approval requirements and specialist studies required;
- Development requirements;
- Site/spatial opportunities and constraints; and
- Maintenance capacity.

3.2 DESIGN PHASE

3.2.1 Recommended Design Team

Developer (Organic Fish Direct) - Ensure that all members of the design team involved in the detailed planning and design of the project are aware of the required environmental management measures and the existence of the EMPr.

Engineer - Engineers skilled in the design of infrastructure systems should determine infrastructure requirements and design appropriate systems/engineering studies.

Environmental Consultant - The Environmental Consultant should alert the developer at the conceptual stage of the development of crucial aspects relating to the environment, which are fulfilling an important role and should be taken into consideration. Opportunities for enhancement or rehabilitation of existing natural features should also be noted.

Specialist Consultants - As required to inform the developer of any specific issues that need to be addressed.

3.2.2 Design Process and Outcome

Design considerations as they relate to environmental impact and presentation of and motivation for the preferred design of this development have been considered in the Basic Assessment Report submitted to the authorities and is not repeated again.

3.3 DEVIATIONS FROM THE APPROVED PROJECT PLANS/CHANGE IN OWNERSHIP

Any significant changes to, or deviations from, the project description set out in the Environmental Authorisation (**EMPr Appendix 2**) which is based on the Basic Assessment Report submitted, must receive written approval from the GDARD before such changes may be effected. The Developer will be responsible for making such application in good time.

An application to GDARD to amend the authorisation must be made in case of any changes of ownership of the land. Conditions of authorization and the contents of this EMPr must be made known to the new owner and are binding on the new owner.

4 CONSTRUCTION PHASE ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

4.1 INTERPRETATIONS

General abbreviations and definitions utilised in this CEMP are listed in **Table 5**.

Table 5: General abbreviations and definitions utilised in the CEMP.

CEMP	Construction phase Environmental Management Plan.
GDARD	Gauteng Department of Agriculture and Rural Development.
DAFF	Department of Agriculture Forestry and Fisheries
DWS	Department of Water and Sanitation.
EA	Environmental Authorisation – issued by GDARD.
ESM	Environmental Site Manager.
PA	Principle Agent.
SAHRA	South African Heritage Resource Agency - the statutory body responsible for heritage resource management.
Bund	Enclosure under and around a storage facility to contain any spillage.
Developer	Organic Fish Direct.
Environment	The aggregate of surrounding objects, conditions and influences that influence the life and habits of man or any other organism or collection of organisms.
Environmental Control Officer (ECO)	An external and independent environmental consultant that verifies compliance with the CEMP to GDARD.
Environmental Management Programme (EMPr)	The overarching document that contains the individual environmental management plans for this project, including this CEMP.
Licensed Landfill Site	Dumpsite for waste that has been licensed in terms of the National Environmental Management: Waste Act 59 of 2008 (or previously in terms of the Environment Conservation Act).
Local Authority	Tshwane Metropolitan Municipality
Site	The boundary and extent of development works and infrastructure, including rehabilitation areas and any areas off the main site on which works are to be carried out in order to allow the development to proceed successfully i.e. any shared access roads.
Structure	Means any man-made feature affixed to the ground or attached to something located on the ground, including but not limited to fences, walls, berms, levees, fill, storage tanks, shelters or buildings.
Stormwater	Water resulting from natural precipitation and/or accumulation and includes rainwater, groundwater and spring water, but excludes water in a water or wastewater reticulation system.

Topsoil	The top 150 mm of soil (average); may include vegetation and rocks.
Works	The construction operations and all related and incidental works, such as site works, earthworks, installation of services, rehabilitation etc., carrying to completion of the development.

4.2 IMPLEMENTATION OF THE CEMP

This CEMP document describes mitigation measures in detail in order to ensure that impacts on the environment are minimised during the construction phase of this project. The CEMP is applicable to all works comprising the development of this project. It is an open-ended document implying that information gained during construction activities and/or monitoring of procedures on site could lead to changes in the CEMP.

The CEMP is to be implemented by the identified responsible parties in the following section, who are expected to co-operate closely to minimise or avoid unnecessary environmental impacts.

Non-compliance penalties are described under **CEMP Specification 14 (Enforcement)** and must be **included into the official contract documentation of each of the principal contractors appointed to the project**. The Developer, Engineer and Contractor are obliged to inform the ECO immediately of events that have/will cause serious environmental damage or of any breaches of the Environmental Authorisation. The ECO in turn will on behalf of the Developer is to immediately inform DEA (within 24 hours), the PA and, where required, the Local Authority of such events and the measures taken to address them.

4.2.1 Responsibilities and Organizational Structure

The environmental management organisational structure for the construction phase of the project is depicted in **Figure 2**.

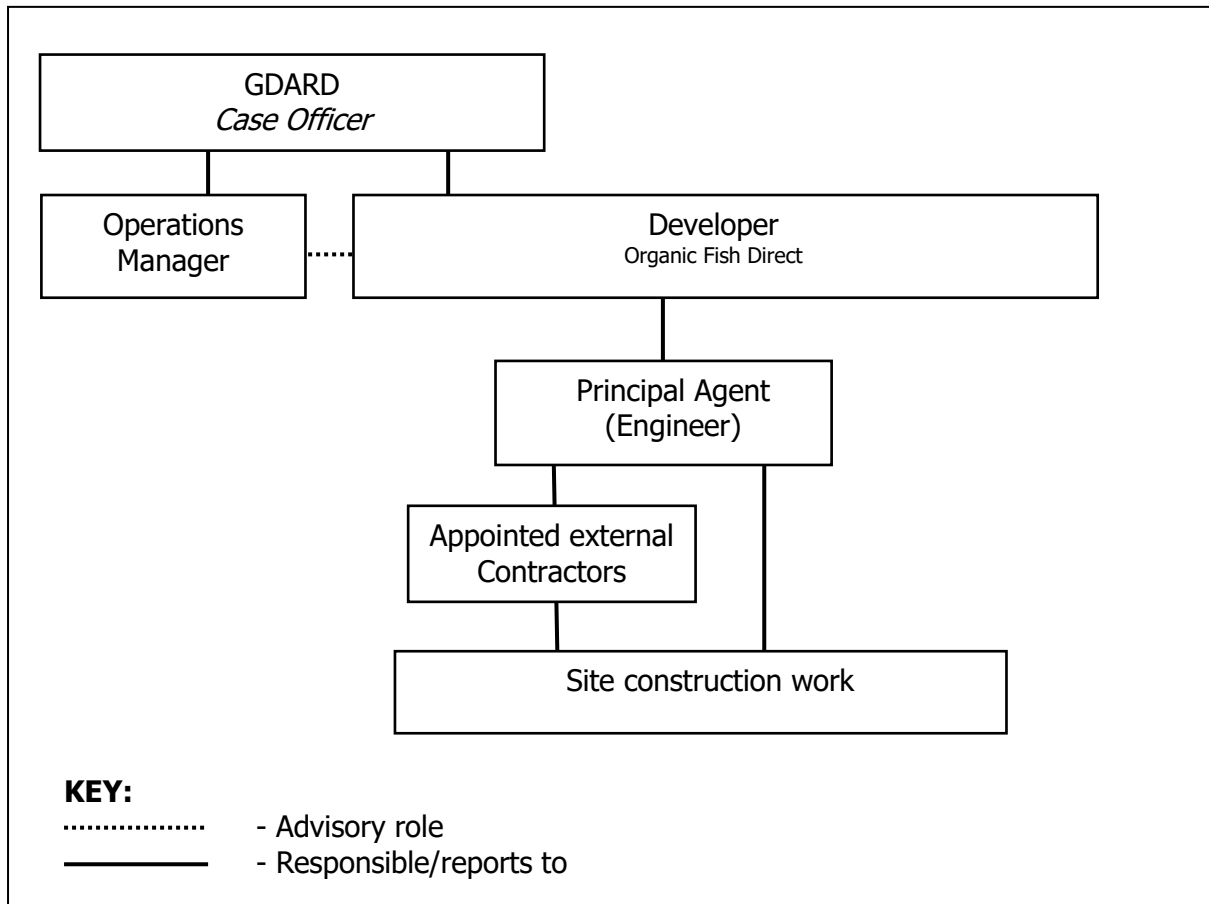


Figure 2: Construction phase Environmental Management Organisational Structure.

The project and EMPr implementation responsibilities are detailed in the following sub-sections (in addition to any other specific tasks allocated to these entities elsewhere in the EMPr).

4.2.2 GDARD Responsibilities

- Issuing Environmental Authorisation; and
- Receiving auditing reports.

4.2.3 Organic Fish Direct Project Manager Responsibilities

The Organic Fish Direct Project Manager is responsible for the overall project management/implementation including:

- Ensuring that all required approvals/permits are in place for the project prior to commencement;
- Appointment of a DEO and other staff for the project and ensuring that they are made aware of the EMPr requirements; and
- Liaison with GDARD, DAFF and other authorities regarding project progress and incidents.
- Appointment of independent auditor, any specialist monitoring and issuing of monitoring data.

4.2.4 Site Operations Manager

The Site Operations Manager is the manager employed for the project to oversee day to day husbandry operations as well as the implementation of the EMPr on the project site.

4.2.5 Designated Environmental Officer

A person with aptitude and knowledge of environmental issues may be either designated or appointed as the Designated Environmental Officer (DEO) and will be responsible for:

- Implementation of the management procedures set out in the EMPr at the project site;
- Ensuring that detailed environmental records are generated and kept as required by the Environmental Monitoring Plan and the EMPr;
- Regular internal review of the environmental procedures in the EMPr and their continued relevance and applicability and suggest revisions where appropriate; and
- Facilitating independent environmental monitoring through provision of information requested by the independent monitoring body.

4.2.6 Independent Auditor

The Independent Auditor is responsible for compliance monitoring and impact/risk assessment of issues as a result of findings and operational circumstances as per the parameter requirements of the Environmental Monitoring Plan/ASC Standard (**OEMP Appendix 1, Section 5**). It is envisaged that an audit will be undertaken annually for the first 5 years and thereafter bi-annually or as required by the authorities and the recommendation of the auditor. The independent auditor must be suitably qualified and experienced (with at least 5 years of applicable traceable experience of similar type audits) and is paid and appointed through the Proponent. An independence declaration must accompany each audit report. The auditor may also make recommendations on mitigation or modifications to the management plans in their audit reports. Audit reports are to be issued within 1 month of the audit taking place and issued to DAFF and GDARD by the proponent.

4.2.7 Environmental Education Programme

The ESM shall arrange for a presentation to all permanent Site staff of the principal Contractors to familiarise them with the environmental aspects of the CEMP within 2 weeks of site establishment. This presentation must take cognisance of the level of education, designation and language preferences of the staff. General Site staff would commonly receive a basic environmental awareness presentation/lecture highlighting general environmental “do’s and don’ts” and how they relate to the Site. Management on Site e.g. Site agents and foremen, who require more detailed knowledge about the environmental sensitivities on Site and the contents and application of the CEMP document itself will benefit from a separate presentation dealing with these issues. The ESM may call upon the services of a specialist environmental education translator should this be required.

No more than 20 people shall attend each course. The cost shall be the Developer’s responsibility and the venue and logistics for this/these course(s) are the Contractor’s responsibility. The ESM shall keep a register of all personnel attending the Environmental Education Program.

The Contractor shall further to this present important environmental requirements (**CEMP Appendix 2**) as part of the compulsory Health and Safety induction meetings presented to all new Site staff and sub-contractors that have not attended the ESM’s training session.

The ESM reserves the right to present additional dedicated environmental inductions for the duration of the contract for any employees including sub-contractor staff, should such additional lectures be deemed necessary by the ESM i.e. in terms of poor compliance by a certain team, problem aspects or failure of the principal Contractor to adequately present lectures.

4.2.8 Method Statements

The Contractor may be required to provide Method Statements prior to work commencing on aspects of the project deemed or identified to be of greater risk to the environment and/or which may not be covered in sufficient detail in the CEMP, when called upon to do so by the Principal Agent or ESM.

A Method Statement describes the scope of the intended work in a step-by-step description in order for the ESM to understand the Contractor's intentions. This will enable them to assist in devising any mitigation measures, which would minimise environmental impact during these tasks. For each instance where it is requested that the Contractor submit a Method Statement, a template is provided in **CEMP Appendix 3** which should be used to guide the submission.

All Method Statements are to be to the satisfaction of the ESM and, where practical and deemed necessary, shall be endorsed as being acceptable by the environmental representative of the relevant Authority. Changes to, and adaptations of, Method Statements can be implemented with the prior consent of all parties.

A list of some of the Method Statements that the Contractor may need to submit during the course of the construction contract has been provided below (not an inclusive list), along with an indication of those which the ESM may require the Contractor to provide prior to the start of works on Site.

4.2.9.1. Site camp and site division

The location, layout and method of establishment of any temporary construction camp established (including all buildings, offices, access routes, lay down yards, fuel storage areas, batching areas and other temporary infrastructure required for the running of the project).

4.2.9.2. Vegetation clearing

Method of vegetation clearing during Site establishment and disposal procedure for cleared material.

4.2.9.3. Fuel storage and use

The design, location and construction of the fuel storage area, service areas as well as for the filling and dispensing from storage tanks and management of drip trays.

4.2.9.4. Restriction of working areas

The position, type and height of all permanent and temporary fencing required for the demarcation of the Site boundaries, working and protected ("no-go areas") areas respectively, include a program of installation.

4.2.9.5. Solid waste management

Expected solid waste types, quantities, methods and frequency of collection and disposal as well as location of disposal sites, include recycling programme.

4.2.9.6. Contaminated water

Methods of minimising, controlling, collecting and disposing of contaminated water e.g. cement mixer wash water.

4.2.9.7. Hazardous substances

Details of any hazardous substances/materials to be used, together with the transport, storage, handling and disposal procedures for the substances.

4.2.9.8. Cement and concrete batching

Location, layout and preparation of mortar/concrete mixing areas including the methods employed for the mixing and handling of cement products and particularly the containment of excessive runoff water from such areas and the method of transportation of concrete.

4.2.9.9. Emergency procedures

Emergency procedures for fire and accidental leaks and spillages of hazardous substances (including fuel and oil), include details of risk reduction measures to be implemented including fire-fighting equipment, fire prevention procedures and spill kits (materials and compounds used to reduce the extent of spills and to breakdown or encapsulate hydrocarbons).

4.2.9.10. Dust

Details on the methods for managing dust on the Site.

Approved Method Statements shall be readily available on the Site and shall be communicated to all relevant personnel and sub-contractors. The Contractor shall carry out the works in accordance with the approved Method Statement.

4.3. MONITORING AND REPORTING

The PA (or appointed person) shall monitor the Site daily with respect to compliance with the specifications contained within this CEMP. The ESM shall visit the Site and verify minimum fortnightly during periods of active construction work that the specifications of this CEMP are complied with and provide the Developer, PA and GDARD case officer with an inspection report.

4.4. ENFORCEMENT

Serious and persistent repeat non-compliances with the specifications of this CEMP shall be reported by the ESM to the GDARD case officer who shall take action in terms of the enforcement procedures of their department under the provisions of the National Environmental Management Act.

4.5. DISPUTE RESOLUTION

Where any disputes or disagreements arise between the PA and the ESM, specifically with regard to environmental management on Site and which cannot be resolved, then the matter will be referred to the case officer at GDARD for clarification and their decision is binding on all parties.

4.6. AUTHORITY INSPECTIONS

Officials from GDARD shall be given access to the property for the purpose of assessing and/or monitoring compliance with the conditions contained in the Environmental Authorisations, issued permits or legislation, at all reasonable times. A copy of the Environmental Authorisation (**EMPr Appendix 2**) must be kept by the PA on the construction Site at all times and must be produced to any authorised official of GDARD who requests to see it.

4.7. SOCIAL RESPONSIBILITIES

The Developer shall encourage and implement wherever possible the procurement of locally based labour, skills and materials.

4.8. COMMUNITY RELATIONS

The Developer shall be responsible for responding to third party or public queries and/or complaints relating to construction operations and the dissemination of information to the community and the media through appropriate mechanisms (complaints register, press releases etc.).

4.9. REVIEW OF THE CEMP

The project team is to assess the practicality and effectiveness of the CEMP and report any problems and suggested amendments to the ESM. Any substantial changes, updates or upgrades of the CEMP must be approved by the ESM and be sent by the ESM to GDARD within 14 days of such changes being made to the CEMP.

4.10. NOTIFICATION OF CONSTRUCTION START

One week's notice, in writing, must be given to GDARD, before commencement of the *initial* construction activity on the Site (thus entrenching the EA within its validity period). This must be undertaken by the Developer or on his behalf by the appointed environmental consultant.

4.11. STRUCTURE OF MANAGEMENT SPECIFICATIONS

The management specifications are set out as follows:

- 1. Legislated Requirements**

Legislation relevant to the particular specification

- 2. Background/Anticipated Environmental Impacts/Risks**

Background to site-specific conditions and/or the environmental impact being mitigated.

- 3. Objectives**

What the management specifications are trying to achieve.

- 4. Performance Indicators**

Identifies indicators that demonstrate the level of compliance with a procedure (assists with auditing of compliance).

- 5. Procedures**

The actual management specifications that aim to avoid or mitigate potential environmental impacts.

- 6. Monitoring and Reporting**

Describes the frequency and type of monitoring of each management section and how and in what forum this is reported on.

- 7. Responsibilities**

Describes who is responsible for what in terms of implementing the management specifications.

- 8. Related Documents**

Describes related documents that may exist containing guidelines or requirements related to the environment or records relating to the procedures.

- 9. Breach**

Applicable penalties if the specification is not complied with.

4.12. MANAGEMENT SPECIFICATIONS

The management specifications applicable to the construction phase of the project follow:

CEMP MANAGEMENT SPECIFICATION		4.12.1. SITE ESTABLISHMENT	
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> National Environmental Management Act (No. 107 of 1998). Occupational Health and Safety Act (No. 85 of 1993). 			
2. BACKGROUND			
<ul style="list-style-type: none"> A temporary construction site camp is required during the construction phase. Laydown areas, workshops, storage areas, etc. will be required to accommodate the projects construction components. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> Plan construction methods that result in the least possible negative environmental impact and document these as environmental Method Statements. Establish a site camp in the least environmentally sensitive location to minimize environmental impact, while still being practical and close to the works areas. Provide welfare facilities to staff including: toilets, drinking water, eating and smoking areas. Establish designated vehicle/machinery refuelling, wash and service areas, waste management areas, material storage areas, stockpile areas and cement/concrete batching areas. Identify and delineate no-go/sensitive areas. 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> All environmental Method Statements are provided by the Contractor prior to commencing with the activities governed by such Method Statements and are kept on file on site. Site camp established in an approved location. Site camp has the required welfare facilities and these facilities are maintained in a hygienic condition. Site camp storage areas, mixing areas and service/refuelling areas are kept neat and orderly. No-go/sensitive areas identified, appropriately delineated and maintained. 			
5. PROCEDURES			
<p>A. Site Camp</p> <ul style="list-style-type: none"> The Contractor's camp, including office, storage containers and other temporary infrastructure needed for the running of the project, shall be located at an easily accessible point on site and the location/s shall be agreed on by the Principal Agent, the ESM and the Contractor prior to establishment. The site camp and associated infrastructure must be located at least 100 m away from the local water course. <p>B. Access/Haul Roads</p> <ul style="list-style-type: none"> The Contractor shall ensure that access points and roads/routes on site for plant/vehicles are approved and maintained in a serviceable condition to the satisfaction of the ESM and Principal Agent. Roads with unconsolidated surfaces shall be damped down periodically with non-potable water or treated with a chemical soil binder such as Dustex if significant dust is generated by passing vehicles posing a health risk to staff working in the area or otherwise causing damage or nuisance. <p>C. Toilets</p> <ul style="list-style-type: none"> A minimum of one toilet is to be provided on site for every 15 contract personnel in the case of chemical toilets and 1 for every 30 staff in the case of flush toilets. Toilets may not be situated within 100 m of a watercourse. Toilets shall be positioned to allow easy access (within 100 m) to all employees on site. Toilets must have doors and locks and chemical toilets shall be secured to prevent them from blowing over. Toilet paper shall be provided. The Contractor shall keep the toilets in a clean, neat and hygienic condition and chemical toilets shall be serviced at least once per week. Chemical toilets are to be emptied prior to builder's holidays/temporary closure. The Contractor shall ensure that no spillage occurs when the toilets are cleaned or emptied and that the contents are removed from site. Discharge of waste from toilets into the environment and burial of waste is strictly prohibited. If the Contractor fails to provide and/or maintain all site sanitation facilities in a clean and hygienic condition, the Principal Agent may order the Contractor to suspend any or all work on the site until these requirements are met. No payment shall be made for any delays caused thereby nor shall extensions of time be granted for such delays. 			

D. Drinking Water

- The Contractor shall ensure that drinking water is available for all staff on site. If no potable water source is available on site then the Contractor shall import drinking water to the site.

E. Eating Areas

- If employees are to eat elsewhere on site other than in the campsite, the Contractor shall designate restricted, sheltered places for eating within the specified working areas. The Contractor shall provide adequate refuse bins with lids in all these places.

6. MONITORING AND REPORTING

- The Contractor shall monitor the site daily with respect to compliance with the specifications.
- The ECO shall monitor minimum fortnightly that the specifications are complied with and provide the Contractor and Principal Agent with an inspection report of any specifications not adequately complied with.
- The ECO shall provide a monthly summary report of compliance to the project team and GDARD.

7. RESPONSIBILITIES

- The Contractor shall ensure compliance with these specifications.
- The ECO shall be responsible for external monitoring and reporting regarding compliance with these specifications.
- The Principal Agent shall issue site instructions to the Contractor where required to address non-compliance with the specifications.

8. RELATED DOCUMENTS

- **CEMP Specification 14 (Enforcement).**

9. BREACH

- A penalty of R500 - R2000/day applies for failure to keep dust levels down on access/haul road, or for failure to provide adequate toilet facilities in a hygienic condition, drinking water and eating areas for site staff.
- The cost of remediation plus a 20% value of the cost of remediation may apply for a site camp located in an unapproved location where it results in negative environmental impacts.

CEMP MANAGEMENT SPECIFICATION		4.12.2. SITE CLEARING	
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> National Environmental Management: Air Quality Act (No. 39 of 2004). National Heritage Resources Act (No. 25 of 1999). National Environmental Management: Waste Act (No. 59 of 2008). Occupational Health and Safety Act (No. 85 of 1993) – Hazardous Substances Regulations. 			
2. BACKGROUND			
<ul style="list-style-type: none"> Vegetation clearing may be required for the construction phase and will be limited to the development footprint. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> No damage or disturbance of areas outside of the development footprint. Rescue and relocate any animals safely and without harm if encountered during site clearing activities. Protect topsoil on site. Clearance of foreign debris found during site clearing and appropriate lawful disposal of the waste. 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> No disturbance of areas outside of the development footprint. No injury to animals found during site clearing. No significant avoidable high fuel loads on site. Any removed topsoil appropriately stored and protected for re-use where feasible. 			
5. PROCEDURES			
<p>A. Alien Plant Removal & Vegetation Clearance</p> <ul style="list-style-type: none"> The extent of the work site shall be clearly demarcated e.g. through the use of clearly visible pegs and made clear to staff prior to the commencement of site clearing works on the site to avoid clearing of vegetation beyond the development footprint. Footprint areas should be kept as small as possible when removing alien plant species. Plant material should be used beneficially wherever possible, as opposed to disposing it at a landfill site where it takes up valuable airspace. Material which cannot be used beneficially must be disposed of at a registered and approved disposal site. When removing material, take care to remove all debris, including shoots and seeds. <p>B. Animal Search and Rescue</p> <ul style="list-style-type: none"> Site staff shall carefully monitor site clearing activities and organise for the relocation of any animals that cannot move off on their own e.g. nesting birds, snakes etc. The Contractor shall contact the ECO for advice if necessary and ensure that any fauna encountered is safely relocated without harm by an appropriate specialist (e.g. snake catcher) or authority. Species and numbers of relocated animals shall be recorded and kept as part of the ECO records. <p>C. Excavation and Trenching</p> <ul style="list-style-type: none"> During excavation and trenching activities, care is to be taken to ensure that the stockpiling of top material is kept separate from sub-soils. Trenches and excavations are to be closed as soon as possible after services have been laid in them, to prevent them from posing safety hazards to people, traffic and animals and to prevent rainwater erosion. Water that needs to be pumped from excavations shall be released in such a manner as to avoid erosion on the site and prevent significant siltation or pollution of any stormwater channels. 			
6. MONITORING AND REPORTING			
<ul style="list-style-type: none"> The Contractor shall monitor the site daily with respect to compliance with the specifications. The ECO shall monitor minimum monthly that the specifications are complied with and provide the Contractor and Principal Agent with an inspection report of any specifications not adequately complied with. The ECO shall provide a monthly summary report of compliance to the project team and GDARD. 			
7. RESPONSIBILITIES			
<ul style="list-style-type: none"> The Contractor shall ensure compliance with these specifications. The Contractor's Health & Safety Officer shall oversee the handling and disposal of hazardous materials such as petrol or diesel and provide a written report to the ECO. The ECO shall be responsible for external monitoring and reporting regarding compliance with these 			

Organic Fish Aquaculture Project, Tshwane.
Draft Environmental Management Programme

<p>specifications.</p> <ul style="list-style-type: none"> The Principal Agent shall issue site instructions to the Contractor where required to address non-compliance with the specifications.
8. RELATED DOCUMENTS
<ul style="list-style-type: none"> CEMP Specification 4 (Housekeeping and Waste Management). CEMP Specification 14 (Enforcement).
9. BREACH
<ul style="list-style-type: none"> A penalty of R500 - R2000/day applies for failure to implement an adequate dewatering system resulting in erosion or sedimentation impacts, or maintaining an unreasonable significant fuel load on site due to failure to frequently dispose of wastes generated during site clearing activities. A penalty of R500 - R10 000 per incident applied to malicious or negligent harm to a wild animal encountered on site. The Contractor shall be liable for the cost of replacement imported topsoil should he fail to separate and protect topsoil stripped from the site as directed by the Construction Contract.

CEMP MANAGEMENT SPECIFICATION		4.12.3. FUEL/FLAMMABLES/HAZARDOUS SUBSTANCE STORAGE AND HANDLING	
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> Occupational Health and Safety Act (No. 85 of 1993) – Hazardous Chemicals Substances Regulations (25 August 1995). Hazardous Substances Act (No. 15 of 1973). 			
2. BACKGROUND			
<ul style="list-style-type: none"> The term "Hazardous Substances" refers to substances scheduled in the Hazardous Substances Act (No. 15 of 1973) and Hazardous Chemical Substances Regulations (August 1995). These include fuels, oils, solvents, cement, pesticides, asbestos etc. Petrol, diesel, solvents and other flammable substances are likely to be used on site. Bulk fuel stores may be established on site by the Contractor. Alternatively plant will be refuelled by mobile bowser. There are associated fire risks to such activities as well as environmental pollution risks particularly to aquatic life in receiving water bodies through contaminated runoff/stormwater should this be allowed to leave the site. Cement powder has a high pH. Spillage of dry cement powder and concrete slurry has the potential to affect both soil and water pH adversely (particularly if it contaminates stormwater that ultimately drains into a sensitive receiving environment e.g. river/ground water). Prevent spillage and undue fire risks associated with the storage and handling of fuels, flammable and hazardous substances on site. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> To ensure safe and proper storage, handling and disposal of hazardous substances on the site, so as to avoid environmental pollution and human health risks. Prevent spillage and undue fire risks associated with the storage and handling of fuels and other flammable substances. 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> No pollution incidents reported or observed on site. Safe disposal certificates and relevant MSDS on the Contractor's site file. No spills observed or spillages adequately treated. Required drip trays in place. Adequate storage facilities including approved location, ventilation, bunding and signage. 			
5. PROCEDURES			
A. Fuel/Flammable/Hazardous Substances Storage and Handling <ul style="list-style-type: none"> All fuels/flammable/hazardous substances are to be stored within a demarcated area on Site. The storage area and perimeter must be well away from stored combustible materials. The Contractor shall ensure that all liquid fuels (petrol and diesel) and other flammable substances are stored in containers with lids, which are kept firmly shut. All containers must be in such a condition as to be reasonably safe from damage and to prevent leakage there from. The rated capacity of a tank/container must be able to accommodate expansion of the product contained therein due to the rise in temperature during storage. Only empty and externally clean containers may be stored on the bare ground. Containers containing fuels as well as all empty and externally dirty containers shall be situated on a smooth and level impermeable surface (e.g. concrete floor) and must be contained within a bund wall. The impermeable lining shall extend to the crest of the bund and the volume inside the bund shall be equal to 110% multiplied (x) by the total capacity of all the storage containers/tanks. The floor of the bund must be sloped towards an oil trap or sump to enable any spilled fuel to be removed. A hydrocarbon absorption/remediation product approved by the Principal Agent and the ESM shall be installed in the bund to reduce the risk of pollution. All safety including SANS requirements for flammables stores including signage shall be implemented by the Contractor's Health and Safety Officer. Sufficient fire-fighting equipment/extinguishers must be provided in an easily accessible position and in close proximity to all areas used for the storage and/or handling of fuel and other flammable substances. The above statements and requirements must further incorporate the regulations and specifications of any laws including the Municipal By-law relating to Community Fire Safety. 			

- All vehicles and equipment must be maintained in a good condition in order to minimise the risk of leakage and possible contamination of the soil or stormwater by fuels, oils and hydraulic fluids.
- All vehicles/plant requiring servicing or refuelling, or which are parked on Site outside overnight and found to leak oils, as well as any static plant e.g. generators and concrete mixers leaking fuels and oils, are to make use of a drip tray placed strategically to avoid incidental spillage of oils and fuels onto the ground. Drip trays shall be inspected at least weekly (daily, if affected by rainwater) and appropriate mop up products used to remove spillages. In particular, drip trays shall be closely monitored during rain events to ensure that they do not overflow.
- A suitable leak proof container for the storage of oiled equipment (filters, drip tray contents and soiled mop-up products, oil changes, etc.) must be established.
- All fuel, oil or hydraulic fluid spills are to be reported to the Principal Agent and ESM immediately and be treated according to the protocols for hydrocarbon spills detailed in **CEMP Specification 11 (Emergency Management)**.

B. Concrete and Cement Handling

- Cement powder is to be stored in a secure weatherproof location to avoid contamination of the environment.
- Cement silos shall be hoarded off with shade cloth to limit the spread of cement dust.
- Concrete batching is prohibited on finished road/floor surfaces.
- Cleaning of equipment and flushing of mixers shall not result in pollution of the surrounding environment. All runoff from batching areas shall be strictly controlled and kept localised.
- Ready mix trucks shall not clean out hoppers on Site unless the concrete waste and wash water is directed to an impermeable sump created on site for this purpose.
- All visible remains of excess concrete shall be physically removed to a licensed landfill site on completion of the plaster or concrete pour section and disposed of.

C. Paint Handling

- No paint products and chemical additives and cleaners such as thinners and turpentine may be disposed of on site or into the sewer or stormwater system. Brush/roller wash facilities shall be established to the satisfaction of the ESM and hazardous disposal receipts shall be kept on file at the Site office. A Method Statement, approved by the Principal Agent and ESM, will be required.

6. MONITORING AND REPORTING

- The Contractor shall monitor the site daily with respect to compliance with the specifications.
- The ECO shall monitor minimum fortnightly that the specifications are complied with and provide the Contractor and Principal Agent with an inspection report of any specifications not adequately complied with.
- The ECO shall provide a monthly summary report of compliance to the project team and GDARD.

7. RESPONSIBILITIES


- The Contractor shall ensure compliance with these specifications.
- The ECO shall be responsible for external monitoring and reporting regarding compliance with these specifications.
- The Principal Agent shall issue site instructions to the Contractor where required to address non-compliance with the specifications.

8. RELATED DOCUMENTS

- **CEMP Specification 11 (Emergency Management).**
- **CEMP Specification 14 (Enforcement).**

9. BREACH

- A penalty of R500 - R2000/day applies for poor flammable substances storage that is seen as potential fire risk and failure to treat significant spills.
- The cost of remediation plus a 20% value of the cost of remediation may apply for significant fuel spills due to the Contractors negligence to comply with these specifications.

CEMP MANAGEMENT SPECIFICATION	4.12.4. HOUSEKEEPING AND WASTE MANAGEMENT		
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> National Environmental Management: Waste Act (No. 59 of 2008). National Water Act (No.36 of 1998) (protection of water resources). Occupational Health and Safety Act (No. 85 of 1993) – Hazardous Chemical Substances Regulations (25 August 1995). 			
2. BACKGROUND			
<ul style="list-style-type: none"> Solid waste produced during the construction phase is mainly expected to be rubble, some cleared vegetation, construction material off cuts and packaging. Waste water is also expected, namely grey and foul water and contaminated water (e.g. with paint, oils, cement or other chemicals). NEMA Waste Act requires that the principal contractor produce a Waste Management Plan and records of the quantities of waste disposed vs. that re-used/recycled. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> Promote waste minimisation and recovery/recycling of waste generated on the site. Avoid litter and pollution. Comply with waste management legislation and achieve responsible waste management and record keeping during the construction phase. Safe and responsible disposal of waste materials resulting from construction. 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> No litter/dumping visible anywhere on the site. Good housekeeping - neat/safe stacking and storage. 			
5. PROCEDURES			
A. Waste Management Plan <ul style="list-style-type: none"> Waste shall be managed in the following order (as is required by the NEM Waste Act): <ul style="list-style-type: none"> Waste Elimination: eliminate waste generation through efficient procurement, reduction in wasteful corrections due to poorly supervised work etc. Waste Reduction: good storage and management of materials to avoid unnecessary breakage/contamination. Waste Re-use on Site: reclaiming of materials otherwise considered as waste e.g. whole bricks and shutter ply out of the rubble stockpile. Waste Recycling/Recovery off Site (<i>records required for verification</i>). Waste Disposal to a licensed landfill site (<i>records required for verification</i>) after separation into general <i>versus</i> hazardous waste categories. 			
			
<p>Figure 3: Waste Management Hierarchy (source: www.wastegroup.co.za).</p> <p>The Contractor, taking the above into account, submits to the ESM a Waste Management Plan (template shown in CEMP Appendix 4).</p>			

The Waste Management Plan entails the following:

- i. The Contractor shall detail each waste anticipated to be produced during the project, anticipated quantities, the waste's classification (hazardous and SABS class or non-hazardous), the disposal method and any special precautions or legislative requirements for each waste type. This shall be reviewed a minimum of every 6 months to remain up to date.
- ii. Specific details as to the destination of each waste type including contact details.
- iii. Details of the system of waste sorting employed on Site including separating hazardous from non-hazardous wastes, separating recyclable from non-recyclable wastes and sorting out re-useable materials, and providing labelled bins for these different waste types.

B. General Housekeeping

- The Contractor is to keep all working areas and the site in general in a neat and tidy condition at all times, including neat and safe stacking and storage of materials and equipment, and management of waste materials at appropriate intervals. Refer also to Section 25 ("Housekeeping on Construction Sites") of the Construction Regulations (18 July 2003) of the Occupational Health and Safety Act.

C. Refuse Control

- The Contractor shall provide labourers to clean up refuse in the Contractor's camp and working areas daily.
- Litter and waste materials (excluding rubble and hazardous waste materials) shall be disposed of into bins. The separation and recovery of recyclable materials is required and is detailed in the Contractor's Waste Management Plan.
- Bins shall be provided at all eating areas. Bins that contain food residues shall be kept lidded and shall not be accessible to wild animals. Food waste must be carefully bagged and removed from site at least weekly.
- The Contractor shall provide sufficient bins on site to store the waste produced on a daily basis. Bins shall not be allowed to become overfull.
- The waste may be temporarily stored on site in a central fenced waste area e.g. with ready fence panels or a waste skip with a shade cloth/netting roof cover where there is a risk of wind dispersal of litter across the site, and which the ECO has approved. All waste storage areas shall be maintained to prevent these from becoming a breeding ground for pests or otherwise posing a health nuisance.
- The Contractor shall remove refuse collected from site at least once a month. Refuse must be disposed of at a licensed landfill site or reputable recycling depot.
- The Contractor shall ensure that waste litter is not deposited by employees anywhere on the site except in refuse bins.

D. Hazardous Waste

- Petroleum, chemical, harmful and hazardous waste is to be temporarily stored in a sealed drum/s in a specifically designated area in the site camp. This waste shall be disposed of at a licensed hazardous waste disposal site. Storage and disposal etc. is also controlled through other relevant legislation, which must be complied with e.g. Hazardous Substances Act (No. 15 of 1973) and the Occupational Health & Safety Act (No 85 of 1993).

E. Builders rubble

- The Contractor shall provide labourers to clean up the Contractor's camp and working areas of rubble generated in the course of construction work at least once a week.
- Clean* rubble shall be temporarily stockpiled in a waste skip or a central stockpile/s and shall be removed from site to a licensed crusher or landfill site as soon as it constitutes a practical load for removal (maximum 10 m³) and before temporary closure of the site.

*No plastics, shrink-wrap, paint buckets or any other debris that does not constitute clean building rubble, shall be stored at such stockpile sites.

F. Re-Use/Recycling

- Wherever possible and practical, waste materials generated by construction shall be recycled for example:
 - Paper/cardboard;
 - Metals;
 - Glass;
 - Plastic (specific types only);
 - Organic waste (e.g. vegetation) to a green waste depot that produces compost; and
 - Whole bricks and crushed rubble for base course (from rubble stockpile).

<ul style="list-style-type: none"> Labelled containers for recyclable materials must be provided separate to general waste bins in the site camp and taken to the relevant depot when full. This aspect must be detailed in the Contractor's Waste Management Plan and explained to the site staff during environmental awareness training sessions. <p>G. Waste water</p> <ul style="list-style-type: none"> The Contractor shall prevent discharge of any waste water containing pollutants, such as cements, lime, chemicals and oils and fuels into any water sources e.g. adjacent river or overland. Wash areas shall be placed and constructed in such a manner so as to ensure that the surrounding areas are not polluted and shall be a minimum of 100 m away from the river. A Method Statement shall be required for all wash areas where hydrocarbon, hazardous materials and pollutants are expected. This includes, but is not limited to paint equipment and concrete batch plant cleaning. Excavation water shall comply with the relevant South African Water Quality Guidelines implemented by DWS, if it is to be released into the environment. Refer to CEMP Appendix 5 for standard requirements where waste water is to be discharged into a water resource. <p>H. Record Keeping</p> <ul style="list-style-type: none"> The weight/volume of all solid waste types generated on site shall be recorded as well as the quantities disposed of via recovery, recycling and to landfill. Reports shall be accompanied by copies of the disposal receipts from the entity accepting the waste as verification. Hazardous wastes require safe disposal certificates.
6. MONITORING AND REPORTING
<ul style="list-style-type: none"> The Contractor shall monitor the site daily with respect to compliance with the specifications. The ECO shall monitor minimum monthly that the specifications are complied with and provide the Contractor and Principal Agent with an inspection report of any specifications not adequately complied with. The ECO shall provide a monthly summary report of compliance to the project team and GDARD.
7. RESPONSIBILITIES
<ul style="list-style-type: none"> The Contractor shall ensure compliance with these specifications. The ECO shall be responsible for external monitoring and reporting regarding compliance with these specifications. The Principal Agent shall issue site instructions to the Contractor where required to address non-compliance with the specifications.
8. RELATED DOCUMENTS
<ul style="list-style-type: none"> CEMP Specification 14 (Enforcement).
9. BREACH
<ul style="list-style-type: none"> A penalty of R500 - R2000/day applies for to any party causing significant dumping of waste/littering on the site or creation of a health nuisance through inadequate storage/periodic removal, in addition to covering the costs of its removal.

CEMP MANAGEMENT SPECIFICATION		4.12.5. CONCRETE AND CEMENT WORKS	
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> National Water Act (No. 36 of 1998) – General Authorisation revision GN 665 of 2013, Section 2.7 (disposal of effluent to natural water sources via stormwater). 			
2. BACKGROUND			
<ul style="list-style-type: none"> Cement powder has a high pH. Spillage of dry cement powder and concrete slurry has the potential to affect both soil and water pH adversely and may impact the growth of certain plant species. Careless handling of cement products resulting in spillage or contaminated runoff may thus have detrimental effects on the surrounding environment e.g. environments receiving contaminated stormwater. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> Prevent contamination of the soil and contamination of stormwater runoff from the site. 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> No evidence of spilled waste concrete anywhere on or off the site as a result of the Contractor's activities. 			
5. PROCEDURES			
<ul style="list-style-type: none"> Cement is to be stored in a secure weatherproof location to avoid contamination of the environment. Concrete batching is to be avoided in "no-go" areas, future green areas and is prohibited on finished road/floor surfaces. Cleaning of equipment and flushing of mixers shall not result in pollution of the surrounding environment: mortar boards and mixing trays must be used at all significant mixing and supply points to prevent costly wastage of the materials, contamination of soils and increased cleaning requirements and all runoff from batching areas shall be strictly controlled and kept localised. Ready mix trucks shall not clean out hoppers on site unless the concrete waste and wash water is directed to an impermeable sump created on site for this purpose. All visible remains of excess concrete shall be physically removed to a licensed landfill site on completion of the plaster or concrete pour section and disposed of. All excess aggregate shall also be removed. 			
6. MONITORING AND REPORTING			
<ul style="list-style-type: none"> The Contractor shall monitor the site daily with respect to compliance with the specifications. The ECO shall monitor minimum monthly that the specifications are complied with and provide the Contractor and Principal Agent with an inspection report of any specifications not adequately complied with. The ECO shall provide a monthly summary report of compliance to the project team and GDARD. 			
7. RESPONSIBILITIES			
<ul style="list-style-type: none"> The Contractor shall ensure compliance with these specifications. The ECO shall be responsible for external monitoring and reporting regarding compliance with these specifications. The Principal Agent shall issue site instructions to the Contractor where required to address non-compliance with the specifications. 			
8. RELATED DOCUMENTS			
<ul style="list-style-type: none"> CEMP Specification 14 (Enforcement). 			
9. BREACH			
<ul style="list-style-type: none"> A penalty of R500 - R1000/incident applies for avoidable concrete spillage on site causing pollution (soil or water) or damage to natural features. The cost of remediation plus a 20% value of the cost of remediation may apply for pollution or damage incidents related to poor concrete handling. 			

CEMP MANAGEMENT SPECIFICATION	4.12.6. WATER USE		
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> National Water Act (No. 36 of 1998). 			
2. BACKGROUND			
<ul style="list-style-type: none"> There is a borehole on site. Water is a limited resource and it must be used efficiently. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> Use water in a responsible way on site to minimize consumption and prevent wastage of this limited resource. Prevent unauthorised water abstraction. 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> No visible water leaks. No unauthorised boreholes established on site (requires licenses and registrations in place). No undue water wastage observed. 			
5. PROCEDURES			
<p>A. Wastage</p> <ul style="list-style-type: none"> Wastage of water shall be avoided at all times. Only proper hoses and fittings in good repair shall be used on site. All taps shall remain properly closed when not in immediate use and all broken pipes/fittings shall be isolated immediately and repaired as soon as possible. Where possible recycle water on the construction site. <p>B. Prevention of Water Pollution</p> <ul style="list-style-type: none"> The pollution of surface or ground water shall be prevented. Such pollution could result from the release, accidental or otherwise, of chemicals, oils, fuels, sewage, water from excavations, construction water, water carrying soil particles or waste products etc. Water sampling and analysis may be required if the Principal Agent or ECO have reason to believe that an activity on site may have resulted in harmful effluent, or if stormwater is believed to be contaminated by the development (CEMP Appendix 5). 			
6. MONITORING AND REPORTING			
<ul style="list-style-type: none"> The Contractor shall monitor the site daily with respect to compliance with the specifications. The ECO shall monitor minimum monthly that the specifications are complied with and provide the Contractor and Principal Agent with an inspection report of any specifications not adequately complied with. The ECO shall provide a monthly summary report of compliance to the project team and GDARD. 			
7. RESPONSIBILITIES			
<ul style="list-style-type: none"> The Contractor shall ensure compliance with these specifications. The ECO shall be responsible for external monitoring and reporting regarding compliance with these specifications. The Principal Agent shall issue site instructions to the Contractor where required to address non-compliance with the specifications. 			
8. RELATED DOCUMENTS			
<ul style="list-style-type: none"> CEMP Specification 14 (Enforcement). 			
9. BREACH			
<ul style="list-style-type: none"> A penalty of R500 - R2000/day applies for failure to repair leaks and avoid wastage of water. Alternatively the estimated cost of the water wasted plus a 20% of this value may apply. A penalty of R500 - R5000/incident applies for causing avoidable water pollution. 			

CEMP MANAGEMENT SPECIFICATION		4.12.7. STORMWATER MANAGEMENT AND EROSION CONTROL	
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> National Water Act (No. 36 of 1998). 			
2. BACKGROUND			
<ul style="list-style-type: none"> There is no formal stormwater system on site. The construction of temporary or permanent stormwater systems shall be created to dispose of stormwater accumulating on site in an effective and responsible manner. Construction activities frequently result in diversions of natural water flow resulting in concentration of flow and an increase in the erosive potential of the water. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> Prevent contamination of stormwater runoff from the site to prevent pollution of the receiving environments. Prevent localised flooding on the site by ensuring that the stormwater system/open furrows are not impeded (e.g. through sediment build up) and remains functional. Prevent exacerbated erosion of drainage lines due to construction activities and where possible, improve the stability of the drainage channels in those places. Prevent sedimentation of receiving environments by lightly compacting disturbed areas (where alien vegetation has been removed or earthwork activities occurred) and correct sloping. Re-vegetate cleared areas soon after earthwork activities, where required. 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> No indication of erosion damage on the site. No evidence of significant sediment deposition in the stormwater system/drainage channels. 			
5. PROCEDURES			
<ul style="list-style-type: none"> During construction the Contractor shall protect areas susceptible to erosion and water logging by installing necessary temporary or permanent drainage works as soon as possible and by taking other measures necessary to prevent the surface water from being concentrated into streams and from scouring slopes, stockpiles or areas off site. Activities on the site e.g. dewatering, erosion must not lead to blockages or disruption of the storm water flow/drainage channels. Earth, stone and rubble is to be properly disposed of so as not to obstruct natural water pathways over the site, i.e. these materials must not be placed in a storm water channel. Any litter/foreign material are to be removed from the storm water channels and catch pits regularly so that function is maintained at all times. Fuel and oil spills anywhere on site are to be treated immediately with an appropriate mop-up or bio-remedial products as directed by manufacturers to prevent contamination of runoff. No cement, concrete, mortar, plaster etc. wastes or washings are to be disposed of anywhere on the Site. No dumping of materials or waste to take place within or near storm water channels. Any runnels or erosion channels developed on work sites during the construction period shall be backfilled and compacted, and the areas restored to a proper condition. Stabilisation measures include: <ul style="list-style-type: none"> The packing of sandbags, straw bales or brush to reduce the speed of water flow where water is scouring the topsoil and results in the formation of erosion gullies; and The installation of water cut-off and flow channels. 			
6. MONITORING AND REPORTING			
<ul style="list-style-type: none"> The Contractor shall monitor the site daily with respect to compliance with the specifications. The ECO shall monitor minimum monthly that the specifications are complied with and provide the Contractor and Principal Agent with an inspection report of any specifications not adequately complied with. The ECO shall provide a monthly summary report of compliance to the project team and GDARD. 			
7. RESPONSIBILITIES			
<ul style="list-style-type: none"> The Contractor shall ensure compliance with these specifications. The ECO shall be responsible for external monitoring and reporting regarding compliance with these 			

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specifications. <ul style="list-style-type: none">• The Principal Agent shall issue site instructions to the Contractor where required to address non-compliance with the specifications.
8. RELATED DOCUMENTS
<ul style="list-style-type: none">• CEMP Specification 14 (Enforcement).
9. BREACH
<ul style="list-style-type: none">• A penalty of R500 – R2000/day applies for failure to keep stormwater systems clear of litter and to avoid contamination of storm water.• The cost of remediation plus a 20% value of the cost of remediation may apply in the case of environmental damage caused through failure to implement these specifications.

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CEMP MANAGEMENT SPECIFICATION	4.12.8. DUST CONTROL		
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> National Environmental Management: Air Quality Act (No. 39 of 2004) (Dust Control Regulations). 			
2. BACKGROUND			
<ul style="list-style-type: none"> The main causes of air pollution will be dust from vehicle movements and stockpiles and vehicle emissions. Dust is a nuisance to staff and excessive dust poses a potential health risk. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> Avoid/minimize wind-blown sand/dust problems and associated nuisance. 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> No evidence of significant wind-blown sand/dust problems. 			
5. PROCEDURES			
<ul style="list-style-type: none"> The Contractor shall take appropriate measures to minimise the generation of dust as a result of construction works, operations and activities to the satisfaction of the ECO and the Principal Agent. Potentially erosive stockpiles shall be located in wind sheltered areas wherever possible or covered or stabilised appropriately. The use of potable water for dust suppression on stockpiles must be avoided. Vehicle speeds shall not exceed 20km/h when traversing unconsolidated areas on site. Unpaved road/track surfaces may be sprayed with non-potable water to suppress dust during construction activities. Excavation, handling and transport of erodible materials shall be avoided under high wind conditions (excess of 45km/hr) when a visible dust plume is present. Ensure that transported materials do not escape from the construction vehicles by providing adequate covering for all load beds. Exposed unconsolidated surfaces shall be surfaced, re-vegetated or stabilised as soon as it is practically possible e.g. after earthworks is complete. Stabilise disturbed areas, by lightly compacting the soil soon after completion. Stabilised sand/soil stockpiles. 			
6. MONITORING AND REPORTING			
<ul style="list-style-type: none"> The Contractor shall monitor the site daily with respect to compliance with the specifications. The ECO shall monitor minimum monthly that the specifications are complied with and provide the Contractor and Principal Agent with an inspection report of any specifications not adequately complied with. The ECO shall provide a monthly summary report of compliance to the project team and GDARD. 			
7. RESPONSIBILITIES			
<ul style="list-style-type: none"> The Contractor shall ensure compliance with these specifications. The ECO shall be responsible for external monitoring and reporting regarding compliance with these specifications. The Principal Agent shall issue site instructions to the Contractor where required to address non-compliance with the specifications. 			
8. RELATED DOCUMENTS			
<ul style="list-style-type: none"> CEMP Specification 14 (Enforcement). 			
9. BREACH			
<ul style="list-style-type: none"> A penalty of R500 - R2000/day applies for failure to implement adequate dust control. 			

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CEMP MANAGEMENT SPECIFICATION	4.12.9. FAUNA ON SITE		
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> Nature Conservation Ordinance (Ordinance 12 of 1983). 			
2. BACKGROUND			
<ul style="list-style-type: none"> The presence of fauna is expected to be limited to small animals (frogs/toads, snakes, nesting birds, etc.) on site, which shall be safely relocated. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> Protect fauna on site by relocating them to other areas of similar habitat if required. 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> No evidence of unduly disturbed or injured fauna. 			
5. PROCEDURES			
<ul style="list-style-type: none"> If fauna is encountered on the site, they must not be trapped, captured, disturbed, injured or killed. If not threatened, or causing a threat to anyone, the animal is to be left alone. If threatened, or causing a threat e.g. a potentially venomous snake, a local conservation officer is to be contacted to undertake or advise on the capture of the animal and release thereof at a nearby conservation area. 			
6. MONITORING AND REPORTING			
<ul style="list-style-type: none"> The Contractor is to report any incidences of injured fauna to the ECO. The Contractor shall monitor the site daily with respect to compliance with the specifications. The ECO shall monitor minimum monthly that the specifications are complied with and provide the Contractor and Principal Agent with an inspection report of any specifications not adequately complied with. The ECO shall provide a monthly summary report of compliance to the project team and GDARD. 			
7. RESPONSIBILITIES			
<ul style="list-style-type: none"> The Contractor shall ensure compliance with these specifications. The ECO shall be responsible for external monitoring and reporting regarding compliance with these specifications. The Principal Agent shall issue site instructions to the Contractor where required to address non-compliance with the specifications. 			
8. RELATED DOCUMENTS			
<ul style="list-style-type: none"> CEMP Specification 14 (Enforcement). 			
9. BREACH			
<ul style="list-style-type: none"> A penalty of R500 - R10 000 per incident applies to malicious or negligent harm to fauna encountered on site. 			

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CEMP MANAGEMENT SPECIFICATION	4.12.10. FIRE MANAGEMENT		
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> Veld and Forest Fire Act (No. 101 of 1998) (fire prevention/control). Occupational Health and Safety Act (No.85 of 1993). 			
2. BACKGROUND			
<ul style="list-style-type: none"> Stored flammables, vegetation stockpiles and plant operating on site could give rise to fires. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> Maintain the site so as to reduce the risk of fire. Minimize air pollution (through unauthorised burning of wastes, covering stockpiles to prevent dust, etc.) 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> No fires in unauthorised locations (e.g. outside of the site camp) and if not authorised by site management. 			
5. PROCEDURES			
<ul style="list-style-type: none"> The Contractor shall take all reasonable and active steps to avoid increasing the risk of fire through their activities on site. Open fires shall not be allowed on site and no exceptions should be made. The Contractor shall ensure that the basic fire-fighting equipment is available on site. The Contractor shall supply the site with tested and approved fire-fighting equipment (minimum 2 X 9 kg fire extinguishers). All woody dead or plant waste material resulting from vegetation clearing is to be removed from the site within 6 weeks of cutting, to reduce unnecessary fuel loads. The disposal of any material by burning is prohibited. The Contractor shall be liable for all costs incurred by organisations sub-contracted to extinguish all fires started by any person(s) under their control. The Contractor shall be liable for all costs incurred to remediate burnt areas. 			
6. MONITORING AND REPORTING			
<ul style="list-style-type: none"> The Contractor's H&S Officer shall ensure that all inductions and training is carried out to facilitate fire response and evacuation and shall ensure that all fire-fighting equipment inspection registers are up to date. The ECO shall monitor minimum fortnightly that fire-fighting equipment is available and of any undue fire risks observed and provide the Contractor and Principal Agent with an inspection report of any specifications not adequately complied with. The ECO shall provide a monthly summary report of compliance to the project team and GDARD. 			
7. RESPONSIBILITIES			
<ul style="list-style-type: none"> The Contractor shall ensure compliance with these specifications. The ECO shall be responsible for external monitoring and reporting regarding compliance with these specifications. The Principal Agent shall issue site instructions to the Contractor where required to address non-compliance with the specifications. 			
8. RELATED DOCUMENTS			
<ul style="list-style-type: none"> CEMP Specification 11 (Emergency Management). CEMP Specification 14 (Enforcement). 			
9. BREACH			
<ul style="list-style-type: none"> A penalty of R500 - R2000/day applies for failure to provide adequate fire-fighting equipment to site. The cost of remediation plus a 20% value of the cost of repair/remediation may apply in the case of environmental damage caused through a fire caused by failure to implement these specifications. 			

CEMP MANAGEMENT SPECIFICATION	4.12.11. EMERGENCY MANAGEMENT		
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> Occupational Health and Safety Act (No. 85 of 1993) and its Construction Regulations (July 2003). 			
2. BACKGROUND			
<ul style="list-style-type: none"> Emergency incidents have the potential to cause significant environmental damage and must be dealt with effectively and efficiently. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> To facilitate efficient response to emergency situations that may arise on the site. 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> Contractor emergency management and evacuation plans in place and up to date. Hydrocarbon/chemical spill response products are on site. Necessary fire-fighting equipment is on site. 			
5. PROCEDURES			
<p>A. General</p> <ul style="list-style-type: none"> The emergency procedure and evacuation plan including telephone numbers of emergency services, the local fire-fighting service, police and ambulance as well as contact details for site management shall be posted noticeably at the site office. <p>B. Fire</p> <ul style="list-style-type: none"> The Contractor shall ensure that his employees are aware of the procedure to be followed in the event of a fire. <p>C. Chemical/Fuel Spill</p> <ul style="list-style-type: none"> The site shall have a supply of absorbent material readily available to absorb any emergency hydrocarbon (fuel/oil) spills, and where possible be designed to encapsulate minor hydrocarbon spillage. The quantity of such materials shall be able to absorb/deal with a minimum of 200 litres of hydrocarbon liquid spill. There are a number of products on the market, which are designed and suitable as absorbents and encapsulators of hydrocarbons. Appropriate absorbents and encapsulators must be utilised to deal with any spills that might occur. Treatment and remediation of spill areas shall be undertaken to the satisfaction of the Principal Agent and ECO. In the case of a potentially hazardous chemical spill (hydrocarbon based or otherwise), the Principal Agent and ECO shall be contacted and shall further ensure that: <ul style="list-style-type: none"> The source of the spillage shall be isolated; The spillage shall be contained using sand berms, sandbags, pre-made booms, and sawdust or other absorbent materials; Cordon off and ensure safety of the spillage area; A specialist clean-up/remediation service provider shall be contracted if required; and Mop-up/remediate the spillage site. 			
6. MONITORING AND REPORTING			
<ul style="list-style-type: none"> The Contractor shall monitor the site daily with respect to compliance with the specifications. The ECO shall monitor minimum fortnightly that the specifications are complied with and provide the Contractor and Principal Agent with an inspection report of any specifications not adequately complied with. The ECO shall provide a monthly summary report of compliance to the project team and GDARD. 			
7. RESPONSIBILITIES			
<ul style="list-style-type: none"> The Contractor shall ensure compliance with these specifications. The ECO shall be responsible for external monitoring and reporting regarding compliance with these specifications. The Principal Agent shall issue site instructions to the Contractor where required to address non-compliance with the specifications. 			
8. RELATED DOCUMENTS			
<ul style="list-style-type: none"> CEMP Specification 14 (Enforcement). 			
9. BREACH			
<ul style="list-style-type: none"> A penalty of R500 - R2000/day applies for failure to provide spill response products or address the cause of 			

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flooding caused by the Contractor's activities.

- The cost of remediation plus a 20% value of the cost of remediation may apply in the case of environmental damage caused through failure to implement these specifications.

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CEMP MANAGEMENT SPECIFICATION	4.12.12. TEMPORARY SITE CLOSURE		
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> National Environmental Management Act (No. 107 of 1998) S28. Occupational Health and Safety Act (No. 85 of 1993) and its Construction Regulations (July 2003). 			
2. BACKGROUND			
<ul style="list-style-type: none"> Most building sites close for three weeks over builder's holidays in December. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> To ensure that the site is left in a safe, clean and stable condition at times when there is no management control for periods longer than a week. 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> Temporary closure report submitted by Contractor's H&S Officer confirming all requirements are met. 			
5. PROCEDURES			
<ul style="list-style-type: none"> If the site is closed for a period exceeding one week, the Contractor's H&S Officer is to check and report on the following: <ul style="list-style-type: none"> Fire hazards identified and minimized; Material stockpiles secured; Ensure fuel/hazardous substances stores are secure, as low in volume as possible, clean and no leaks evident; Dust mitigation in place; Slopes and stockpiles stabilized; Materials stores secured; Toilets empty and secured; Refuse bins empty and secured and all waste/rubble removed; No-go area fencing in place; and Drip trays empty & secure. The Contractor is to ensure that all temporary closure requirements are met before leaving the site. 			
6. MONITORING AND REPORTING			
<ul style="list-style-type: none"> The Contractor's H&S Officer shall undertake an environmental closure inspection after the Contractor has confirmed that works have been completed and provide the ECO and Principal Agent with an inspection report of closure requirements not adequately complied with. The ECO shall provide a final environmental closure report to the project team and GDARD after all outstanding issues have been addressed. 			
7. RESPONSIBILITIES			
<ul style="list-style-type: none"> The Contractor shall ensure that all temporary site closure requirements are complied with. The ECO shall be responsible for external monitoring and reporting regarding compliance with these specifications. The Principal Agent shall issue site instructions to the Contractor where required to address non-compliance with the specifications. 			
8. RELATED DOCUMENTS			
<ul style="list-style-type: none"> Temporary site closure checklist – CEMP Appendix 1. 			
9. BREACH			
<ul style="list-style-type: none"> A penalty of R500 - R5000/day applies for failure to address temporary closure requirements adequately, thus causing avoidable environmental management problems on site whilst the Contractor is off site. 			

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CEMP MANAGEMENT SPECIFICATION	4.12.13. SITE CLEANUP AND REHABILITATION		
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> National Environmental Management Act (No. 107 of 1998) S28. 			
2. BACKGROUND			
<ul style="list-style-type: none"> Once construction activities are completed, the Contractor is to remove temporary site camps, containers, machinery and any other construction related materials from the site. Disturbed areas outside the development footprint must be rehabilitated. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> Leave the site in a sound, neat, tidy and stable condition after construction works have been completed. 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> No evidence of remaining wastes or excess materials on site. No evidence of unrepaired damages caused by the Contractor's activities on site. All outstanding environmental penalties paid by the Contractor. 			
5. PROCEDURES			
<ul style="list-style-type: none"> The Contractor shall ensure that all temporary structures, equipment, materials, waste and facilities used for construction purposes and not part of the permanent works is removed upon completion of the project. The site clean-up shall be to the satisfaction of the Principal Agent and the ECO. The Contractor shall be responsible for rehabilitating/repairing areas damaged by construction activities related to the project as identified by the ECO and the Principal Agent. The Contractor's procedure for rehabilitation shall be approved by the ECO and the Principal Agent. 			
6. MONITORING AND REPORTING			
<ul style="list-style-type: none"> The ECO shall undertake an environmental closure inspection after the Contractor has confirmed that works have been completed and provide the Contractor and Principal Agent with an inspection report of closure requirements not adequately complied with. The ECO shall provide a final environmental closure report to the project team and GDARD after all outstanding issues have been addressed. 			
7. RESPONSIBILITIES			
<ul style="list-style-type: none"> The Contractor shall ensure that all closure requirements are complied with. The ECO shall be responsible for external monitoring and reporting regarding compliance with these specifications. The Principal Agent shall issue site instructions to the Contractor where required to address non-compliance with the specifications. 			
8. RELATED DOCUMENTS			
<ul style="list-style-type: none"> Nil. 			
9. BREACH			
<ul style="list-style-type: none"> Failure to complete closure requirements will result in no environmental closure report being issued to the Authorities. 			

CEMP MANAGEMENT SPECIFICATION	4.12.14. ENFORCEMENT		
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> The conditions of authorisation for this development in terms of the National Environmental Management Act (No. 107 of 1998). 			
2. BACKGROUND			
<ul style="list-style-type: none"> Serious and persistent repeat non-compliances with the specifications of this CEMP shall be reported by the ECO to the GDARD case officer who shall take action in terms of the enforcement procedures of their department under the provisions of the National Environmental Management Act. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> To provide methods of enforcement to ensure that the provisions of this CEMP are implemented and to provide recourse for environmental damage. 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> Penalty issue log kept by the Principal Agent. Proof of payment of penalties by the Contractor. 			
5. PROCEDURES			
<ul style="list-style-type: none"> Where the Contractor inflicts damage upon the environment or fails to comply with any of the environmental specifications contained within this CEMP, he shall be liable to pay a penalty for breach of the conditions of the environmental specifications which form part of the works contract. The Contractor is deemed NOT to have complied with this specification if: <ul style="list-style-type: none"> Within the boundaries of the site, site extensions and haul/access roads there is evidence of contravention of the specification; Environmental damage ensues due to negligence; The Contractor fails to comply with corrective or other instructions issued by the Principal Agent/ECO within a specific time; and The Contractor fails to respond adequately to complaints from the public. Penalties shall be issued per incident for the Contractor's responsibility at the discretion of the Principal Agent in consultation with the ECO. The amount of the penalty shall be determined by the Principal Agent, in consultation with the ECO. The Principal Agent shall inform the Contractor of the contravention and the amount of the penalty, and will deduct the amount from monies due under the Contract. Payment of any penalties in terms of the contract shall not absolve the offender from being liable from prosecution in terms of any law. The penalties listed under each of the specifications sections in this CEMP (not necessarily an exclusive list) shall be issued in addition to any remedial costs incurred as a result of non-compliance with the environmental specifications and shall be imposed by the Principal Agent on the Contractor for contraventions of the environmental specifications by individuals or operators employed by the Contractor and/or his sub-contractors. Where there are ranges, the amount shall depend on the severity and extent of the damage done to the environment. For each subsequent similar offence committed by the same team or individual, the penalty shall be doubled in value to a maximum value of R20 000. All monies collected through penalties shall be held by the Developer and be accounted for. A summary page is to be included with the monthly payment certificates as a record of penalties issued to date. Penalty funds shall be allocated a suitable local environmental cause agreed upon by the Developer, Contractor and ECO at the end of the contract and payment must be confirmed prior to environmental closure being granted for the project. 			
6. MONITORING AND REPORTING			
<ul style="list-style-type: none"> The ECO shall monitor minimum fortnightly that the specifications are complied with and provide the Contractor and Principal Agent with a written warning of any specifications not adequately complied with. Failure to rectify the non-compliance within the stipulated time frames in the written warning shall cause a penalty to be recommended to the Principal Agent. 			

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<ul style="list-style-type: none">• The ECO shall indicate all recommended penalties in the monthly environmental summary report issued to the project team and GDARD.• The Principal Agent shall account for all penalties issued and present these as part of the site meeting minutes.
7. RESPONSIBILITIES
<ul style="list-style-type: none">• The Contractor shall ensure that any issued penalties are paid.• The ECO shall be responsible for external monitoring and reporting regarding compliance with these specifications and recommend penalties accordingly after a warning letter and stipulated time frame to rectify the non-compliance has been issued.• The Principal Agent shall issue penalties to the Contractor in terms of breach with the Construction Contract, shall collect monies and ensure payment to the environmental cause identified at the end of the Construction Contract.
8. RELATED DOCUMENTS
<ul style="list-style-type: none">• The penalty clauses in the Construction Contract.• Suggested penalties under each specification section.

4.13. FINANCING OF ENVIRONMENTAL CONTROL

All aspects covered in this document shall be deemed to be included in the rates tendered by the Principal Contractor the Schedule of Quantities. Some of the important cost items have been listed below to assist the Contractor in making provision for implementation of the specifications:

4.13.1. Site demarcation

The supply, installation and removal at the end of the construction of all temporary fences e.g. to secure the site; demarcate unsafe or “no-go” areas as per the requirements of **CEMP Specification 4.12.1.**

4.13.2. Protection of stock piles from blowing or washing away

The covering of erodible stockpiles, including the cover material as required.

4.13.3. Storage of fuel and oils

The supply, construction, installation, transport, upkeep and removal of all facilities required for storage and management of fuel and oils. Include the supply of a spill response product per **CEMP Specification 4.12.3.**

4.13.4. Contaminated water management

The supply, construction, installation, transport, upkeep and removal of all facilities required for managing contaminated water e.g. cement mixer wash water, paint wash water and filtration and settlement during dewatering of excavations.

4.13.5. Cement product management

The supply, construction, installation, transport, upkeep and removal of all materials and facilities required for managing cement products during storage batching and handling.

4.13.6. Stormwater and flood management

The supply, construction, installation, transport, upkeep and removal of all facilities required for managing storm water runoff from the Site and protection of works from flooding.

4.13.7. Supply of drip trays for stationary and “parked” plant

The supply, installation, transport, upkeep and removal of all drip trays required.

4.13.8. Dust management

The supply, application, transport, upkeep and removal of all materials required to ensure that dust is adequately controlled e.g. straw stabilisation after earthworks is complete, water for un-surfaced roads and cover material for stockpiles.

4.13.9. Solid waste management

The supply, application, transport, upkeep and removal of all materials required to ensure that solid waste is adequately controlled (including a recycling program).

4.13.10. Fire Control

The supply, transport, upkeep and removal of all material required for fire control e.g. fire extinguishers.

4.13.11. Staff attendance at the environmental awareness training course

The sum shall cover all costs incurred by the Contractor in providing the venue and facilities as detailed in the Specifications and in ensuring the attendance of all relevant employees at the training.

4.13.12. Eating areas

The supply, construction, installation, transport, upkeep and removal at the end of the construction of all eating areas structures and facilities.

4.13.13. Ablutions

The supply, maintenance, regular emptying and removal of toilets.


4.14. CEMP APPENDICES

Appendices 1 – 6 follow:

Appendix 1	ESM Checklists for CEMP Compliance.
Appendix 2	Basic Environmental Education Content.
Appendix 3	Method Statement Template.
Appendix 4	Waste Management Plan Template.
Appendix 5	Waste Water Guidelines.

CEMP APPENDIX 1: ESM CHECKLISTS FOR CEMP COMPLIANCE

START UP CHECKLIST FOR THE ORGANIC FISH AQUACULTURE PROJECT, TSHWANE, GAUTENG.						
CEMP	Item	Issue/concern	Compliance			Comments
			Y	N	Part	
4.6	Admin	Environmental Authorisation kept in file on site.				
		Contracts manager on Site has copy of CEMP on Site and confirms that its contents is understood and will be complied with.				
4.10	Notification of Construction Start	GDARD notified in writing 10 days before construction start.				
4.2.2	Environmental Education	Contract Site staff attended an environmental induction or H&S induction with an environmental component – register on file.				
4.2.3	Method Statements	All required Method Statements including Waste Management Plan submitted and approved.				
4.12.1	Contractor's Camp	Setup in agreed location.				
		Adequate toilets provided (1:15).				
		Adequate bins provided.				
		Adequate eating area/s and drinking water provided.				
		Adequate hydrocarbon spill response product on Site in case of spill.				
		Provision of enough fire-fighting equipment (extinguishers, etc.) on Site.				
		Availability of all emergency contact details on Site and known to staff e.g. fire-fighting, hydrocarbon spills services, police services, ambulance, etc.				
4.12.2.5	Search & Rescue	Animals, plants/topsoil and animals rescued – ref rescue lists.				
4.12.4	Restriction of Working Areas	All "no-go" area fencing in place.				
		All facilities, materials inside approved working areas.				
4.12.3	Fuel Storage Area	Adequate fuel storage area assigned.				
ESM confirms all start up requirements have been met: ESM: _____ Date: _____ Signed: _____						

TEMPORARY ENVIRONMENTAL SITE CLOSURE CHECKLIST FOR THE ORGANIC FISH AQUACULTURE PROJECT, TSHWANE, GAUTENG.				
 <p>Ecosense Consulting Environmentalists Konsulerende Omgewingskundiges</p> <p>PO Box 12697 Die Boord 7613 Western Cape South Africa</p> <p>Tel: +27 21 886 4056 Fax: +27 86 617 5561 Web: www.ecosense.co.za</p>		CONTRACTOR:		
		CONTRACTOR DEO:		
		DATE OF INSPECTION:		
		EMERGENCY CONTACT PERSON:		
		EMERGENCY CONTACT NUMBER:		
ITEM		CHECK	REMARKS	PHOTO
Fuel storage:				
1.	Ensure fuel store as low in volume as possible			
2.	Fuel bund secure, no leaks in bund wall, tanks or containers			
3.	Bund empty and any spills treated e.g. with Enretech			
4.	Fuel store/outlet secure/locked			
5.	There are no stores or containers within the 1:50 year flood line			
6.	Fire extinguisher serviced and accessible			
7.	Drip trays empty and secure			
8.	All fuel spills on site treated			
9.	Safety officer to check fuel store prior to closure of the site			
Stabilization:				
1.	Wind and dust mitigation in place e.g. straw, brush packs, irrigation, shade cloth screens			
2.	Stockpiles of loose material e.g. sand covered securely			
3.	Slopes and stockpiles at a stable angle to prevent collapse/water erosion			
Safety and security (safety officers must check also):				
1.	All excavations and manholes secured			
2.	Fencing and barriers in place as per OSH Act			
3.	No-go areas fenced / delineated / secured			
4.	Site boundaries demarcated			
5.	Notice boards up and secured e.g. "Construction site - no entry"			
6.	Emergency and management contact details displayed on notice board			
7.	Site safety officer checks prior to closure as per OSH Act			
8.	Night hazards checked - e.g. reflectors, lighting, traffic signage			
9.	Fire hazards identified and mitigated e.g. remove large brush stockpiles, excess fuels			
10.	Pipe stockpiles wedged and secured			
11.	Scaffolds secure			
12.	Structures vulnerable to high winds secure			
13.	Inspection schedule and log by security or contracts staff			
14.	Traffic Safety measures implemented where required			

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15.	Security personal has been briefed and has the facilities to contact and be contacted by the relevant management and emergency personnel			
Material Storage:				
1.	Hazardous substance stores secure			
2.	Cement and materials stores secure			
3.	Stockpiles neat and secure from water erosion, wind dispersal etc.			
Landscaping:				
1.	Revegetated areas watering schedules and supply secured			
Stormwater management				
1.	Detention ponds or channels in place			
Toilets:				
1.	Toilets empty and serviced			
2.	Toilets secured			
3.	Plumbed toilets are to have no water leakages			
Solid waste:				
1.	Refuse bins empty and secured			
2.	All rubble and refuse removed off site to licensed dumpsite			
Construction camp and general site:				
1.	Camp and overall site clean, tidy and secure			
2.	Plant remaining on site to have as little remaining fuel as possible and are to be checked for leaks. Suitable drip trays are to be placed and secured under all remaining plant			
COMMENTS				
CONDITIONS OF CLOSURE (Outstanding requirements):				
TEMPORARY CLOSURE GRANTED: ENVIRONMENTAL SITE MANAGER SIGNATURE: SITE SAFETY OFFICER SIGNATURE:		YES NO	DATE: ____/____/20	

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CLOSURE CHECKLIST FOR THE ORGANIC FISH AQUACULTURE PROJECT, TSHWANE, GAUTENG.					
Item	Issue/Concern	Compliance			Comments
		Y	N	Part	
Admin	Environmental Authorization complied with.				
	Proof of payment of penalties.				
	All waste management reporting on file?				
	Disposal receipts for hazardous material attached e.g. soiled hydrocarbon spill mop up products, etc.				
All Temporary Site Facilities Removed?	Temporary toilets.				
	Site area temporary fencing.				
	Site containers/offices.				
	Equipment and plant.				
	Excess materials.				
Waste Removed?	All wastes removed from Site, final litter collection and clean-up undertaken.				
Rehabilitation Undertaken?	All oil/fuel spills remediated.				
	Any chemical spillages/pollution mopped up.				
	Any damage to features outside of the Site repaired.				
	Any damaged landscaped areas rehabilitated?				
	All POS rehabilitation and landscaping complete per plan.				
General	Site clean and tidy?				
Significant Environmental Incidents/ Compliance Breaches	Describe including remedial actions:				
Report Attached?					
General Comments					
ESM confirms all environmental closure requirements have been met: ESM: _____ DATE: _____ SIGNED: _____					

CEMP APPENDIX 2: BASIC ENVIRONMENTAL EDUCATION CONTENT



Consulting Environmentalists
Konsulerende Omgewingskundiges

PO Box 12697
Die Boord
7613
Western Cape
South Africa

Tel: +27 21 886 4056
Fax: +27 86 617 5561
Email: mark@ecosense.co.za
Web: www.ecosense.co.za

SHE Induction Training

Please add the following environmental awareness points as part of your SHE induction presentations to new staff at the **ORGANIC FISH AQUACULTURE PROJECT, TSHWANE, GAUTENG.**

Basic Environmental Awareness:

1. Why follow environmental Site rules?

- Constitution of South Africa = "We have a right to a clean and healthy environment". Preserve environment for future generations.
- Rules form part of Construction phase Environmental Management Plan – legally binding thus fines, disciplinary action and even removal of staff from Site for non-compliance.

2. No – Go Areas

- Stay out of restricted areas unless you have specific authorisation to work there e.g. wetland areas as well as neighbouring properties. Fines for non-compliance!

3. Hazardous substances

- Hazardous substances to be used handled and stored safely in accordance with instructions of the Material Safety Data Sheet.
- No oils, fuels, paints or chemicals or polluted wash water or mop up products containing these to be thrown out on Site or into stormwater/sewer! Must be placed into sealed containers for removal from Site.

4. Fire

- No fires and burning of wastes are allowed on Site. Permission must be obtained from Site Management for Site braai's at the Site camp.
- No smoking near vegetated areas.

5. Waste Control

- Clean work areas daily. Waste must be disposed of in the bins provided on Site.
- Plastics and litter that can blow around shall **immediately** be put into bins.
- All food waste into bins with scavenger proof lids.
- Rubble to be kept in central stockpiles (max total 10 m³) and regularly removed.
- Do not mix clean rubble with rubbish!
- Explain recycling programme.

6. Concrete

- All concrete mixing at dedicated plastic lined batching sites or in mortar trays. Concrete spills must be cleaned up immediately.

7. Animals

- Severe penalties for anyone caught trapping, removing an animal from Site.
- Report problem wild animals e.g. nesting birds, snakes or trapped or injured animals to Site management for rescue.
- Do not feed any wild animal. Keep food resources e.g. staff lunch packs, food refuse out of reach of wild animals
- Know first aid procedure in case of a snake bite.

8. Material storage/stockpiles

- Keep windblown sand down –maintain stockpile covers and screens.
- No stockpiling outside of Site/in no-go areas.

9. Vehicles and machinery

- Drip trays placed under leaking static plant e.g. pumps, generators and parked vehicles during servicing and refuelling.
- Report all leaking machinery and oil/fuel spills immediately. Spills to be treated and machinery to be fixed or remove from Site.

10. Toilets

- Report blocked or leaking toilets. Keep toilets clean. Only use toilet paper!

11. Water wastage

- Do not waste water! Repair leaking hosepipes immediately and protect from damage/use correct fittings.

12. Archaeology

- Any suspected archaeological finds or human remains to be reported to Site manager immediately and worked stopped in the area until further notice.
-

CEMP APPENDIX 3: METHOD STATEMENT TEMPLATE

This Method Statement is to be completed by the person requiring the work to be undertaken (e.g. the Engineer or Contractor). This Method Statement will be assessed by the Environmental Site Manager (ESM) for potential negative impacts on the environment.

The Method Statement can only be implemented once signed off by the ESM as being environmentally acceptable.

The person undertaking the work (the Contractor or his representative undertaking the works on the Site) must also sign the Method Statement, thereby indicating that the works will be carried out according to the methodology contained in the approved Method Statement.

The ESM will use the Method Statement to audit compliance by the Contractor with the requirements of the approved Method Statement.

Changes to the way the works are to be carried out must be reflected by amendments to the original approved Method Statement; amendments require the signature of the Engineer, denoting that the changed methodology or works are necessary for the successful completion of the works, and by the ESM as being environmentally acceptable. The Contractor will also be required to sign the amended Method Statement thereby committing him/herself to the amended Method Statement.

This Method Statement MUST contain sufficient information and detail to enable the ESM to apply his/her mind to the potential impacts of the works on the environment. The Contractor will also need to thoroughly understand what is required of him/her in order to undertake the works.

THE TIME TAKEN TO PROVIDE A THOROUGH, DETAILED METHOD STATEMENT IS TIME WELL SPENT. INSUFFICIENT DETAIL WILL RESULT IN DELAYS TO THE WORKS WHILE THE METHOD STATEMENT IS REWRITTEN TO THE ESM'S SATISFACTION.

WHAT work is to be undertaken?

(Provide a brief description of the works)

--

WHERE are the works to be undertaken?

(Where possible, provide an annotated plan and a full description of the extent of the works)

--

HOW are the works to be undertaken?

(Provide a description of how works are to be undertaken)

--

WHEN are the works to start; what is the anticipated finish date?

--

DECLARATIONS

1) ENVIRONMENTAL SITE MANAGER

The work described in this Method Statement, if carried out according to the methodology described, is satisfactorily mitigated to prevent avoidable environmental harm:

NAME: _____

DATE: _____

SIGNED: _____

2) PERSON UNDERTAKING THE WORKS

I understand the contents of this Method Statement and the scope of the works required of me. I further understand that this Method Statement may be amended on application to the above signatories and that the Environmental Site Manager will audit my compliance with the contents of this Method Statement:

NAME: _____

DATE: _____

SIGNED: _____

3) APPROVING AUTHORITY (E.g. Principal Agent)

The works described in this Method Statement are approved.

NAME: _____

DESIGNATION: _____

DATE: _____

SIGNED: _____

CEMP APPENDIX 4: WASTE MANAGEMENT PLAN TEMPLATE

WASTE MANAGEMENT PLAN		Document No.	WMP 01
		Revision No.	
		Date	
ORGANIC FISH AQUACULTURE PROJECT			
Contractor		Phone number	
Responsible person		E-mail	
1. Planning			
a) All potential Waste Streams (generated during site establishment, construction and de-establishment) have been identified in the attached Waste Register.			
b) The waste streams have been categorized into General and Hazardous waste. Hazardous waste has further been given a hazard rating (SABS code).			
c) The Waste Register will be reviewed every month for accuracy.			
2. Waste Sorting			
a) Waste will be sorted into the following categories on site: <i>(e.g. clean rubble stockpiles, bins for different recyclables, hazardous wastes, wastes to landfill etc.)</i> :			
WASTE TYPE	SORTING, SEPARATION AND STORAGE METHOD ON SITE		
3. Waste Storage/Handling on Site			
a) Waste will be temporarily stored as follows: <i>(e.g. time on site, protection from weather, labelled bins/skips etc.)</i>			

4. Destination of Waste/Recovery/Recycling Method

WASTE TYPE	DISPOSAL TYPE (E.g. recovery/recycling/landfill)	DESTINATION (Incl. contact details of receiver)

5. Internal Monitoring Procedure

6. Document Control and Reporting Procedure

7. Training of Staff (*e.g. re on site sorting procedures etc.*)

8. Other

NAME	
SIGNATURE	
DATE	

CEMP APPENDIX 5: WASTE WATER GUIDELINES

Wastewater limit values applicable to discharge of wastewater into a water resource (Source - GOVERNMENT GAZETTE No 26187 REGULATION No 399 - 26 March 2004).

SUBSTANCE/PARAMETER	GENERAL LIMIT	SPECIAL LIMIT
Faecal Coliforms (per 100 ml)	1 000	0
Chemical Oxygen Demand (mg/l)	75 (i)	30(i)
pH	5,5-9,5	5,5-7,5
Ammonia (ionised and un-ionised) as Nitrogen (mg/l)	6	2
Nitrate/Nitrite as Nitrogen (mg/l)	15	1,5
Chlorine as Free Chlorine (mg/l)	0,25	0
Suspended Solids (mg/l)	25	10
Electrical Conductivity (mS/m)	70 mS/m above intake to a maximum of 150 mS/m	50 mS/m above background receiving water, to a maximum of 100 mS/m
Ortho-Phosphate as phosphorous (mg/l)	10	1 (median) and 2,5 (maximum)
Fluoride (mg/l)	1	1
Soap, oil or grease (mg/l)	2,5	0
Dissolved Arsenic (mg/l)	0,02	0,01
Dissolved Cadmium (mg/l)	0,005	0,001
Dissolved Chromium (VI) (mg/l)	0,05	0,02
Dissolved Copper (mg/l)	0,01	0,002
Dissolved Cyanide (mg/l)	0,02	0,01
Dissolved Iron (mg/l)	0,3	0,3
Dissolved Lead (mg/l)	0,01	0,006
Dissolved Manganese (mg/l)	0,1	0,1
Mercury and its compounds (mg/l)	0,005	0,001
Dissolved Selenium (mg/l)	0,02	0,02
Dissolved Zinc (mg/l)	0,1	0,04
Boron (mg/l)	1	0,5

(i) After removal of algae

5. OPERATIONAL PHASE ENVIRONMENTAL MANAGEMENT PLAN (OEMP)

This Operational phase Environmental Management Plan (OEMP) highlights key specifications applicable to the operations of the Organic Fish Aquaculture Project in Tshwane, Gauteng.

5.1. INTERPRETATIONS

General abbreviations and definitions utilised in this OEMP are listed in **Table 6**.

Table 6: General abbreviations and definitions utilised in the OEMP.

DAFF	Department of Agriculture Forestry and Fisheries.
GDARD	Gauteng Department of Agriculture and Rural Development.
DEO	Designated Environmental Officer.
EA	Environmental Authorisation – issued by GDARD.
MSDS	Material Safety Data Sheet.
OEMP	Operational phase Environmental Management Plan.
SAHRA	South African Heritage Resource Agency - the statutory body responsible for heritage resource management.
Local Authority	Tshwane Metropolitan Municipality.
Environment	The aggregate of surrounding objects, conditions and influences that influence the life and habits of man or any other organism or collection of organisms.
Environmental Management Plan	Environmental management plans forming part of the overarching Environmental Management Programme (EMPr), in this case the relevant plan is the Operational phase Environmental Management Plan (OEMP).
Site	The boundary and extent of project operations and infrastructure.

5.2. RESPONSIBILITIES AND ORGANISATIONAL STRUCTURE

The organisational structure for the operational phase of this project is depicted in **Figure 4**.

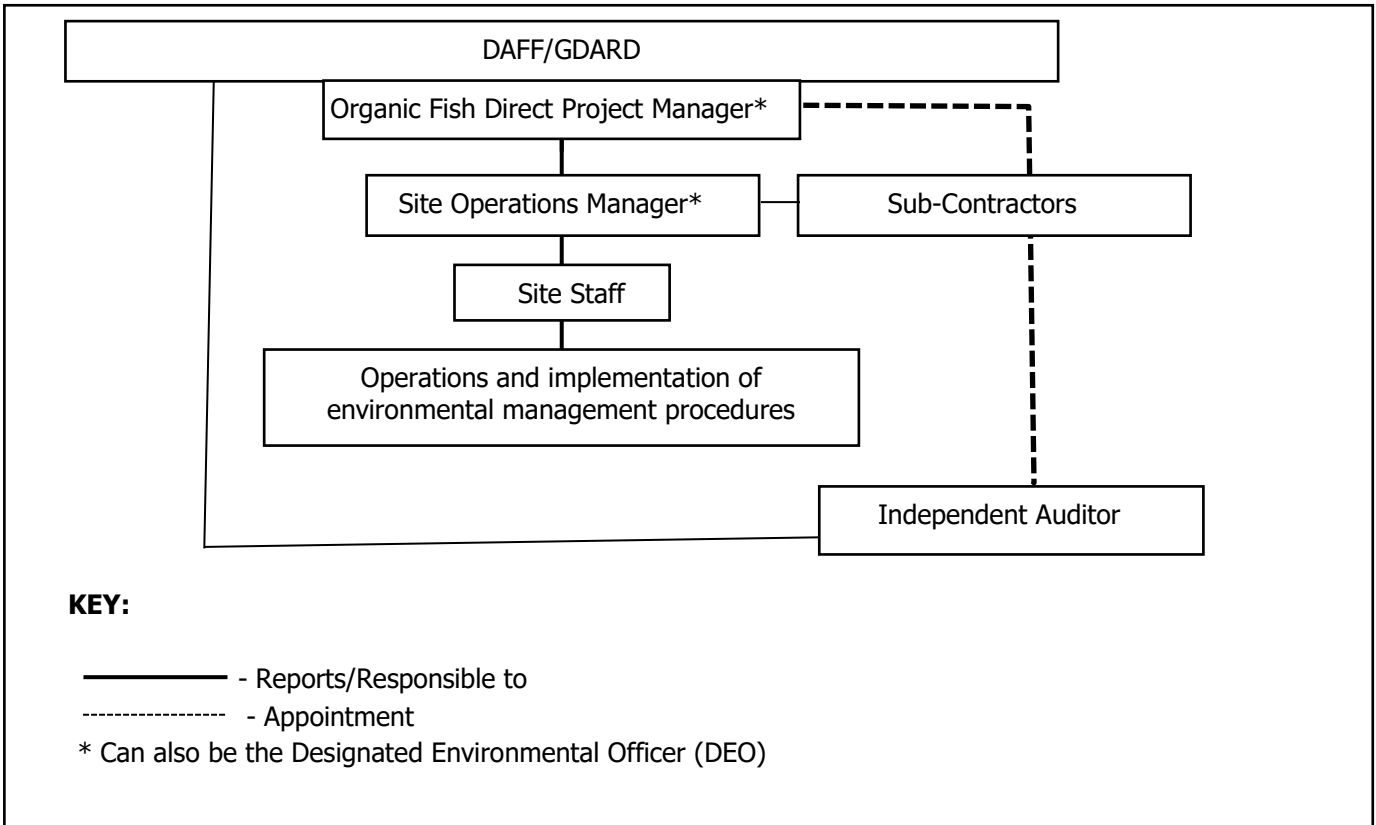


Figure 4: Operational Phase Environmental Management Organisational Structure.

5.2.1. DAFF Responsibilities

- Allocating permits for import, introduction and transport of trout permits; and
- Collaborating with the applicant on obtaining environmental auditing and monitoring information.

5.2.2. GDARD Responsibilities

- Issuing Environmental Authorisation; and
- Receiving auditing reports.

5.2.3. Organic Fish Direct Project Manager Responsibilities

The Organic Fish Direct Project Manager is responsible for the overall project management/implementation including:

- Ensuring that all required approvals/permits are in place for the project prior to commencement;
- Appointment of a DEO and other staff for the project and ensuring that they are made aware of the EMPPr requirements; and
- Liaison with GDARD, DAFF and other authorities regarding project progress and incidents.
- Appointment of independent auditor, any specialist monitoring and issuing of monitoring data.

5.2.4. Site Operations Manager

The Site Operations Manager is the manager employed for the project to oversee day to day husbandry operations as well as the implementation of the EMPr on the project site.

5.2.5. Designated Environmental Officer

A person with aptitude and knowledge of environmental issues may be either designated or appointed as the Designated Environmental Officer (DEO) and will be responsible for:

- Implementation of the management procedures set out in the EMPr at the project site;
- Ensuring that detailed environmental records are generated and kept as required by the Environmental Monitoring Plan and the EMPr;
- Regular internal review of the environmental procedures in the EMPr and their continued relevance and applicability and suggest revisions where appropriate; and
- Facilitating independent environmental monitoring through provision of information requested by the independent monitoring body.

5.2.6. Independent Auditor

The Independent Auditor is responsible for compliance monitoring and impact/risk assessment of issues as a result of findings and operational circumstances as per the parameter requirements of the Environmental Monitoring Plan/ASC Standard (**OEMP Appendix 1, Section 5**). It is envisaged that an audit will be undertaken annually for the first 5 years and thereafter bi-annually or as required by the authorities and the recommendation of the auditor. The independent auditor must be suitably qualified and experienced (with at least 5 years of applicable traceable experience of similar type audits) and is paid and appointed through the Proponent. An independence declaration must accompany each audit report. The auditor may also make recommendations on mitigation or modifications to the management plans in their audit reports. Audit reports are to be issued within 1 month of the audit taking place and issued to DAFF and GDARD by the proponent.

5.3. FINANCING OF ENVIRONMENTAL CONTROL

The implementation of the environmental control requirements outlined in this document shall be financed by the proponent, Organic Fish Direct.

5.4. REVIEW OF THE OEMP

The management procedures contained in the EMPr may need to be amended to ensure that the environmental management requirements of the document remain relevant to the site conditions and in light of experience gained on the project.

All proposed amendments shall be tabled by the Organic Fish Direct Project Manager to GDARD and DAFF for approval prior to changes being made to the EMPr.

5.5. MONITORING AND AUDITING

The DEO, in collaboration with the Project Manager (where applicable), will carry the responsibility of monitoring the implementation of the EMPr on site by all relevant parties on an on-going basis and address any non-compliance.

5.6. STRUCTURE OF THE MANAGEMENT SPECIFICATIONS

The management specifications are set out as follows:

1. Legislated Requirements

Legislation relevant to the particular specification

2. Background/Anticipated Environmental Impacts/Risks

Background to site-specific conditions and/or the environmental impact being mitigated.

3. Objectives

What the management specifications are trying to achieve.

4. Performance Indicators

Identifies indicators that demonstrate the level of compliance with a procedure (assists with auditing of compliance).

5. Procedures

The actual management specifications that aim to avoid or mitigate potential environmental impacts.

6. Monitoring and Reporting

Describes the frequency and type of monitoring of each management section and how and in what forum this is reported on.

7. Responsibilities

Describes who is responsible for what in terms of implementing the management specifications.

8. Related Documents

Describes related documents that may exist containing guidelines or requirements related to the environment or records relating to the procedures.

9. Breach

Applicable penalties if the specification is not complied with.

5.7. MANAGEMENT SPECIFICATIONS

The management specifications applicable to the operational phase of the project follow:

OEMP MANAGEMENT SPECIFICATION	5.7.1. STORMWATER, EROSION AND DUST MANAGEMENT		
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> National Water Act (No. 36 of 1998). National Environmental Management: Air Quality Act (No. 39 of 2004) (Dust). 			
2. BACKGROUND			
<ul style="list-style-type: none"> Contamination of stormwater can result in the pollution of receiving environments. Blocking of the stormwater system (even if informal system) can result in localised flooding. Erosion control in the context of this procedure shall refer to water erosion (resulting in scouring, loss of topsoil and deposition of sediments into receiving environments). Exposed soils and dirt access roads have the potential to cause dust nuisance. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> Prevent contamination of stormwater runoff to prevent pollution of receiving environments. Prevent localised flooding within the development by ensuring that the stormwater system is not impeded (e.g. through sediment build up) and remains functional. Maintain roads in a neat and serviceable condition, free of pollutants that can runoff into the stormwater system. Avoid/minimize wind-blown sand/dust problems and associated nuisance. 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> Stormwater system is visibly free of significant litter, sediment, oil and other contaminants. Roads are clean and free of debris, litter, fuel and oil spills. No indication of erosion on site. No evidence or reports of significant wind-blown sand/dust problems. 			
5. PROCEDURES			
<ul style="list-style-type: none"> Ensure gutters and rainwater collection tanks are in working order. Check exposed surfaces after rainfall events. Repair any signs of erosion immediately. 			
6. MONITORING AND REPORTING			
<ul style="list-style-type: none"> The DEO, in collaboration with the Project Manager (where applicable), will carry the responsibility of monitoring the implementation of this specification. 			
7. RESPONSIBILITIES			
<ul style="list-style-type: none"> The DEO is responsible for implementing this specification on the project site and for monitoring and recording any issues noted as well as remedial action applied. 			
8. RELATED DOCUMENTS			
<ul style="list-style-type: none"> OEMP Specification 9 (Reporting). 			
9. BREACH			

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OEMP MANAGEMENT SPECIFICATION	5.7.2. WATER USE		
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> National Water Act (No. 36 of 1998). 			
2. BACKGROUND			
<ul style="list-style-type: none"> Water from boreholes may be used to irrigate landscaped areas. Both ground and surface water will be utilised. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> Use only authorised water sources. Use water in a responsible way on site to minimize consumption/wastage. Avoid possible pollution of water resources on/adjacent to site. 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> No unauthorised water use/boreholes etc. No visible water leaks or obvious water wastage. No evidence of pollution of water sources (ground or surface). No contraventions with applicable water restrictions. Water Use records are kept by management. 			
5. PROCEDURES			
<p>A. Abstraction</p> <ul style="list-style-type: none"> Any water source utilised including boreholes shall be licensed as applicable in terms of the National Water Act. <p>B. Avoidance of Water Wastage</p> <ul style="list-style-type: none"> A monitoring system shall be in place for the early detection of leaks and all leaks shall be addressed immediately. Adhere to applicable municipal water restrictions at all times. <p>C. Prevention of Water Pollution</p> <ul style="list-style-type: none"> The pollution of surface or ground water shall be prevented. Such pollution could result from the release, accidental or otherwise, of chemicals, oils, fuels, sewage, water carrying soil particles or waste products etc. 			
6. MONITORING AND REPORTING			
<ul style="list-style-type: none"> The DEO shall monitor implementation of this specification and appropriately repair or report leakages and wastage. 			
7. RESPONSIBILITIES			
<ul style="list-style-type: none"> The DEO is responsible for implementing this specification on the project site and for monitoring and recording any issues noted as well as remedial action applied. 			
8. RELATED DOCUMENTS			
<ul style="list-style-type: none"> OEMP Specification 9 (Reporting). 			
9. BREACH			

OEMP MANAGEMENT SPECIFICATION	5.7.3. HAZARDOUS SUBSTANCES MANAGEMENT		
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> Hazardous Substances Act (No. 15 of 1973) and Hazardous Substances Regulations (August 1995). 			
2. BACKGROUND			
<ul style="list-style-type: none"> Hazardous substances refer to substances scheduled in the Hazardous Substances Act (No. 15 of 1973) and Hazardous Chemical Substances Regulations (August 1995). These include fuels, oils, solvents, disinfectants, therapeutic chemicals etc. When hazardous substances are mobilized in runoff water they can move above or below ground beyond the site of the original source of contamination. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> To ensure safe and proper storage, handling and disposal of hazardous substances on the site so as to avoid environmental pollution and human health risks. Minimise fire risk associated with the storage of flammable substances. 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> Proper storage of flammable and hazardous substances on site. No pollution incidents related to the storage or use of hazardous substances reported or observed on the site. 			
5. PROCEDURES			
A. Fuel Storage and Handling			
<ul style="list-style-type: none"> Sufficient fire-fighting equipment/extinguishers, as determined by the controlling Authority, must be provided in an easily accessible position and in close proximity to all areas used for the storage and/or handling of fuel and other flammable substances. No structures for the bulk storage of fuels may be installed or constructed without the relevant approvals being obtained. 			
B. Hazardous Substances Storage Areas (if applicable)			
<ul style="list-style-type: none"> All hazardous substances shall be stored in the central chemicals store. An inventory of all substances contained in the store shall be displayed on the door of the store and updated monthly. Copies of the Material Data Safety Sheet (MSDS) of all substances in the store shall be in a plastic sleeve also attached to the door. The person in charge of the store must ensure that the store doors are kept locked when the store is not in use. Containers used for hazardous substances, must be kept closed when not in use, and must be labelled, clearly indicating the name of the contents. All containers must be in such a condition as to be reasonably safe from damage and to prevent leakage there from. Empty containers must be securely closed and disposed of as per the requirements of the MSDS. Only empty and externally clean containers may be stored on the bare ground. 			
C. Hydrocarbon Spills			
<ul style="list-style-type: none"> In the case of any hydrocarbon spills within the site, the spillage is to be reported immediately to management, who is to supervise the clean-up operation. A suitable remedial product is to be applied to the spillage within 48 hours. Instructions for use and disposal of the product used are to be followed carefully. Ensure that an appropriate remedial product is utilised if a spill occurs. All necessary action is to be taken to prevent any of the spilled substance from entering the stormwater system and any landscaped areas. Management is to keep a full record of the nature and cause of any such incident, as well as actions taken. 			
D. Maintenance of Buildings			
<ul style="list-style-type: none"> Should any of the buildings require painting, or other maintenance, care is to be taken to ensure that no paint or other materials used for maintenance enter the stormwater system or surrounding environment. Cleaning of painting or other maintenance equipment is thus to be done in such a manner, or at a location 			

that will prevent any water containing paint or other chemicals to flow into the stormwater system.
6. MONITORING AND REPORTING
7. RESPONSIBILITIES
8. RELATED DOCUMENTS
<ul style="list-style-type: none">• OEMP Specification 9 (Reporting).
9. BREACH

OEMP MANAGEMENT SPECIFICATION	5.7.4. INFRASTRUCTURE AND EQUIPMENT MANAGEMENT		
Version No.	01	Date	May 2017
1. BACKGROUND/ANTICIPATED ENVIRONMENTAL RISKS			
<ul style="list-style-type: none"> Loading equipment, vehicles and machinery (e.g. generators) need to be maintained to ensure that they do not pollute the environment. Maintenance activities must take place in such a way as to prevent pollution occurring. 			
2. OBJECTIVES			
<ul style="list-style-type: none"> Ensure that project infrastructure is maintained in a safe and serviceable condition as to not potentially negatively impact on the environment as well as to avoid failures that could also result in escapees. Administer approved antifouling agents. Limit noise impacts. Minimise visual impacts of associated infrastructure. 			
3. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> Infrastructure inspection logs completed. Project facilities (e.g. yard) are clean and tidy. Only natural (environmentally friendly)/DAFF approved anti-fouling chemicals used. Incident reports related to infrastructure failure incidents on file. Adherence to visual impacts mitigation techniques. 			
4. PROCEDURES			
<ul style="list-style-type: none"> The following infrastructure shall be inspected daily and repaired as needed: Tanks, pumps, central sump, drum filter, heterotrophic filter, degasser/trickle tower. Any maintenance on the buildings shall be subject to the chemical/hazardous substances and housekeeping and waste management procedures. Any leaking taps or pipes shall be identified and repaired immediately. 			
5. MONITORING AND REPORTING			
<ul style="list-style-type: none"> The DEO is to inspect all infrastructure The Environmental Auditor is to verify correct storage and that the relevant MSDS are on file. 			
6. RESPONSIBILITIES			
7. RELATED DOCUMENTS			
<ul style="list-style-type: none"> OEMP Specification 3 (Hazardous Substances). OEMP Specification 5 (Housekeeping and Waste Management). 			
8. BREACH			

OEMP MANAGEMENT SPECIFICATION	5.7.5. HOUSEKEEPING AND WASTE MANAGEMENT		
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> National Water Act (No. 36 of 1998) (Protection of water resources). National Environmental Management: Waste Act (No. 59 of 2008). Occupational Health and Safety Act (No. 85 of 1993) – Hazardous Chemical Substances Regulations. 			
2. BACKGROUND			
<ul style="list-style-type: none"> Solid waste from fish processing will be used to produce bio-fertiliser. A minimal amount of office waste will be generated. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> Promote waste minimisation and recovery/recycling of waste generated on the site. Avoid litter and pollution. Compliance with legislation. 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> No litter/dumping visible anywhere on the site. Good housekeeping – neat/safe stacking and storage. 			
5. PROCEDURES			
<p>A. Waste Disposal</p> <ul style="list-style-type: none"> All domestic waste and general refuse is to be stored in bins and removed from the site at least once a week, to prevent littering of the surrounding areas. All outdoor bins are to have lids, or be of such a nature that does not allow for distribution of litter by wind, or unpacking of bins by scavengers or vagrants. Full bins or skips are to be stored in a refuse room, or sealed with lids, which cannot be accessed by vagrants and scavengers. <p>B. Recycling</p> <ul style="list-style-type: none"> Apply best practice in terms of waste management i.e. reduce, reuse and recycle. Recycling opportunities must be provided on site by facilitating the collection of relevant waste products, e.g. paper, glass and plastic on Site and removal by recycling companies. <p>C. Litter Control</p> <ul style="list-style-type: none"> Bins are to be emptied twice weekly or more regularly if required. Bins, if free-standing are to be secured to prevent them from blowing over in strong winds. Any litter on the property is to be removed on a daily basis. <p>D. Hazardous Waste (where applicable)</p> <ul style="list-style-type: none"> Hazardous wastes (e.g. old fuels/oils, batteries/cells, hazardous chemicals, pesticide containers, paints and solvents etc.) must be disposed of at a licensed hazardous waste disposal site. A record of safe disposal from the receiving waste site/Contractor shall be kept for all hazardous waste disposed of. <p>E. Liquid Wastes</p> <ul style="list-style-type: none"> No waste liquids such as paints, oils and other hazardous chemicals may be directed into the stormwater system (this ultimately drains into vegetated areas that provide a habitat for plant and animal life that would be adversely affected by such substances). No foul water soak-away areas are permitted anywhere on site. <p>F. Sewerage</p> <ul style="list-style-type: none"> In case of accidental sewage spillage the following procedures are to be implemented: <ul style="list-style-type: none"> Stop spillage if possible, close valve, stop pump; Contain spillage if possible and notify the responsible person; Treat with lime; and Keep record of severity and cause and notify the relevant Authorities. 			
6. MONITORING AND REPORTING			
<ul style="list-style-type: none"> The DEO shall monitor that the site is free of litter and that bins and sewage tank are well managed and not overfull daily. The DEO shall maintain a log and disposal receipts related to disposal of wastes on site in the project 			

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environmental file.
The following documents relating to waste management shall be kept on site and for the specified period:
<ul style="list-style-type: none"> • Waste register (continually updated); • Safe disposal certificates for hazardous waste (5 years after completion of the construction works); • Waste manifests (5 years after completion of the construction works); and • Records of environmental incidents (to be kept for 5 years after completion of the construction works).
7. RESPONSIBILITIES
<ul style="list-style-type: none"> • The DEO shall be responsible for monitoring and reporting regarding compliance with this specification.
8. RELATED DOCUMENTS
<ul style="list-style-type: none"> • OEMP Specification 9 (Reporting).
9. BREACH
<ul style="list-style-type: none"> • A penalty of R500 - R2000/day applies for to any party causing significant dumping of waste/littering on the site or creation of a health nuisance through inadequate storage/periodic removal, in addition to covering the costs of its removal.

OEMP MANAGEMENT SPECIFICATION	5.7.6. ALIEN INVASIVE PLANT CLEARING		
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> Conservation of Agricultural Resources Act (No. 43 of 1983). National Environmental Management Biodiversity Act (NEM:BA) Alien and Invasive Species Regulations (GN 598 of 2014). 			
2. BACKGROUND/ANTICIPATED ENVIRONMENTAL RISKS			
<ul style="list-style-type: none"> Alien clearing is an essential management measure that must be implemented. Landowners are under legal obligation to control alien plants occurring on their properties. Alien invasive plants lead to a decrease in biodiversity in natural areas, lead to an increased fire risk on the property and are very water hungry, thus utilising more surface and ground water than natural vegetation. The eradication of such plants is necessary and is also required by legislation. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> Removal of alien invasive plants and prevention of further spreading of alien plant species. 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> Alien invasive plant clearing is conducted as per the Alien Clearing Procedures and Program. 			
5. PROCEDURES			
<ul style="list-style-type: none"> All Category 1 and 2 alien invasive vegetation as directed by the National Conservation of Agricultural Resources Act (Act 43 of 1983) or any amendments thereto, are to be removed from the entire development on a continuous basis (minimum bi-annually). Alien tree and shrub species should preferably be pulled by hand while young. Seedlings should not be allowed to grow to a size where they have reached seed bearing age or requiring expensive mechanical or chemical controls. Seedling removal will be most effective after rains when the soil is wet. It is important to ensure that the roots are pulled out of the ground, and that the seedling is not snapped off at ground level, as it will re-grow. Stems of all species, under 50 mm in diameter can be removed by Treepopper to reduce the need for chemical treatment and the risk of coppicing (re-growth). Large alien plants should be cut as close to ground level as possible to prevent re-sprouting. Larger specimens may be trimmed and herbicide applied to the cut. It is recommended that a dye be mixed in with the herbicide to indicate which stumps have been treated. Use of herbicides in close proximity to the wetland features needs to be carefully controlled. All alien plant material removed from the Site is to be disposed of at an approved waste disposal site or chipped for mulch material. When chipping alien species it is essential that no seeds are allowed to re-enter the areas to be rehabilitated. The spreading of seeds, would lead to a widespread explosion of alien plants. This can be avoided by only chipping woody parts of alien species. Smaller branches, leaves and seeds of plants should be removed from Site. Only herbicides registered for each particular plant species that requires control may be used. Chemical foliar treatments are most effective on dense stands of seedlings, and where plants are a maximum of 1 m tall. A follow up programme is important to limit the re-establishment of aliens in cleared areas. All clearing actions shall be monitored and documented to keep track of which areas are due for follow-up clearing. 			
6. MONITORING AND REPORTING			
<ul style="list-style-type: none"> The DEO shall monitor implementation of this procedure and shall remove alien vegetation on a regular basis. 			
7. RESPONSIBILITIES			
<ul style="list-style-type: none"> The DEO is responsible for the ongoing removal and management of alien vegetation clearing. 			
8. RELATED DOCUMENTS			
<ul style="list-style-type: none"> OEMP Specification 9 (Reporting). 			
9. BREACH			

OEMP MANAGEMENT SPECIFICATION	5.7.7. FIRE MANAGEMENT		
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> City of Tshwane Metropolitan Municipality fire brigade service by-law. 			
2. BACKGROUND/ANTICIPATED ENVIRONMENTAL RISKS			
<ul style="list-style-type: none"> Accidental fires have the potential to cause significant environmental damage. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> Minimize the risk of uncontrolled fires on the site. Protect persons and property on/or immediately adjacent to the site from fires. 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> No unreasonable fire risks (e.g. poor storage of flammable substances, smoking in risk areas, etc.). 			
5. PROCEDURES			
A. General <ul style="list-style-type: none"> All Site staff is to be familiar with the position of hydrants and fire control equipment on the site. Open flames should not be permitted within 10 m any flammable areas. Ensure that appropriate signage is in place (e.g. no smoking). B. Fire Prevention <ul style="list-style-type: none"> All dead or waste plant material resulting from landscape maintenance is to be removed from the Site/chipped/treated within 6 weeks of cutting, to reduce unnecessary fuel loads. C. Fire Response and Evacuation <ul style="list-style-type: none"> Ensure an emergency plan is in place to warn residents if a fire starts. Notify the local fire department immediately. 			
6. MONITORING AND REPORTING			
<ul style="list-style-type: none"> The DEO is to ensure that all fire equipment/hydrants are inspected at a minimum every 6 months to ensure that it is adequate, accessible and maintained. 			
7. RESPONSIBILITIES			
<ul style="list-style-type: none"> The DEO is responsible for the circulation of the fire response and evacuation plan to all residents to deal with responding to such emergency situations. 			
8. RELATED DOCUMENTS			
<ul style="list-style-type: none"> OEMP Specification 8 (Emergency Management). 			
9. BREACH			

OEMP MANAGEMENT SPECIFICATION	5.7.8. EMERGENCY MANAGEMENT		
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> Occupational Health and Safety Act (No. 85 of 1993). 			
2. BACKGROUND/ANTICIPATED ENVIRONMENTAL RISKS			
<ul style="list-style-type: none"> Emergency incidents have the potential to cause significant environmental damage and must be dealt with efficiently and effectively. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> To facilitate efficient response to emergency situations that may arise. 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> No evidence of avoidable environmental damage due to poor emergency response. Fire response team/equipment available to respond in case of fires. Chemical spill response products are on Site. 			
5. PROCEDURES			
<p>A. Fire</p> <ul style="list-style-type: none"> All residents have been informed of the procedure to be followed in the event of a fire (OEMP Specification 7). <p>B. Sewage or Chemical/Fuel Spill</p> <ul style="list-style-type: none"> In the case of a potentially hazardous chemical spill (hydrocarbon based or otherwise): <ul style="list-style-type: none"> The source of the spillage shall be isolated; The spillage shall be contained using sand berms, sandbags, pre-made booms, and sawdust or other absorbent materials; Cordon off and ensure safety of the spillage area; A specialist clean-up/remediation service provider shall be contracted if required; and Mop-up/remediate the spillage site. Specific bio-remediation products are available for spills in soil/water environments (as opposed to mopping up spills from hard surfaces). These include products for fuel/oil spills and for sewage spills. <p>C. Flooding</p> <ul style="list-style-type: none"> Localised flood damage e.g. due to a blocked stormwater outlet or system which shall be repaired immediately. 			
6. MONITORING AND REPORTING			
<ul style="list-style-type: none"> The DEO is to report emergency situations to the relevant emergency services. 			
7. RESPONSIBILITIES			
<ul style="list-style-type: none"> The DEO is responsible for setting up the emergency response and evacuation plans. 			
8. RELATED DOCUMENTS			
<ul style="list-style-type: none"> OEMP Specification 1 (Stormwater, Erosion and Dust Management). OEMP Specification 3 (Hazardous Substances Management). OEMP Specification 7 (Fire Management). 			
9. BREACH			
<ul style="list-style-type: none"> 			

OEMP MANAGEMENT SPECIFICATION	5.7.9. REPORTING		
Version No.	01	Date	May 2017
1. LEGISLATED REQUIREMENTS			
<ul style="list-style-type: none"> The conditions of authorisation for this development in terms of the National Environmental Management Act (No. 107 of 1998). 			
2. BACKGROUND			
<ul style="list-style-type: none"> Serious and persistent repeat non-compliances with the specifications of this OEMP shall be reported by the DEO to the GDARD case officer who shall take action in terms of the enforcement procedures of their department under the provisions of the National Environmental Management Act. 			
3. OBJECTIVES			
<ul style="list-style-type: none"> To provide records of compliance to ensure that the provisions of this OEMP are implemented and to provide recourse for environmental damage. 			
4. PERFORMANCE INDICATORS			
<ul style="list-style-type: none"> Available records. 			
5. PROCEDURES			
<p>Keeping record of reports to authorities on the following:</p> <ul style="list-style-type: none"> Changes to details of responsible person in the organisation; Changes to any processes or methods at the facility; Incidents; Non-compliances with legislation or operating permits; Audits reports; Intention to close the operations. Damage reports (infrastructure); Outbreaks of disease; Significant mortalities; Production rates; Incidents; Changes to the EMPr; Non-compliances with legislation or operating permits; and Complaints from communities. 			
6. MONITORING AND REPORTING			
<ul style="list-style-type: none"> The DEO shall monitor minimum monthly that the specifications are complied with 			
7. RESPONSIBILITIES			
<ul style="list-style-type: none"> The DEO shall be responsible for external monitoring and reporting regarding compliance with these specifications 			
8. RELATED DOCUMENTS			
<ul style="list-style-type: none"> Nil 			

**OEMP APPENDIX 1: REVISION SCHEDULE TO THE OEMP
(PENDING)**

OEMP APPENDIX 2: SUMMARY OF OPERATIONAL MANAGEMENT PROCEDURES

6. DECOMMISSIONING PHASE REQUIREMENTS

Should the project be decommissioned for any reason, a decommissioning risk report and method statement shall be compiled and submitted to GDARD and DAFF.

As a minimum the report must address:

- De-establishment of the infrastructure on site;
- Disposal of any remaining waste on site;
- Removal/disposal/storage or re-use for another purpose of any project infrastructure and equipment from the site;
- The fate of any remaining fish; and
- Address any other identified residual environmental risks as a result of the operations.

The report must be jointly agreed by the independent monitoring body and the Project Manager and must be accepted by GDARD and DAFF for the project to be considered closed.

7. REFERENCES

1. Ecosense Environmental Consultants CC. 2017. Basic Assessment Report: Organic Fish Aquaculture project, Tshwane.

8. EMPr APPENDICES

EMPr APPENDIX 1: SITE LAYOUT PLAN



EMPr APPENDIX 2: PLANNING AND ENVIRONMENTAL APPROVALS

(PENDING)

EMPr APPENDIX 3: UPDATES TO THE EMPr

(PENDING)

EMPr APPENDIX 4: EAP CURRICULUM VITAE