SOIL MANAGEMENT PLAN

METHOD STATEMENT

GARDEN WALK MALL

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1. DEFINITIONS

Environment

The surroundings in which humans exist and which comprise:
- The land, water and atmosphere of the earth.
- Micro-organisms, plant and animal life.
- Any part or combination of a) and b) and the interrelationships among and between them.
- The physical, chemical, aesthetic and cultural properties and conditions of the foregoing that can influence human health and well-being.

Environmental Aspect

Those components of the company's activities, products and services that is likely to interact with the environment.

Environmental Authorisation

The written statement from the relevant environmental authority in terms of the National Environmental Management Act (Act 107 of 1998), with or without conditions, that records its approval of a planned activity and the implementation thereof and the mitigating measures required to prevent or reduce the effects of environmental impacts during the life of a contract.

Environmental Management Programme (EMPr)

An environmental management tool used to ensure that undue or reasonably avoidable adverse impacts of the construction, operation and decommissioning of a project are prevented; and that the positive benefits of the projects are enhanced.

Hazardous waste

Waste that are proven to be toxic, corrosive, explosive, flammable, carcinogenic, radioactive, poisonous or classified as such in legal terms.

Monitoring

A systematic and objective observation of an organization's activities and services conducted and reported on regularly.

Natural Vegetation

All existing vegetation species, indigenous or otherwise, of trees, shrubs, groundcover, grasses and all other plants found growing on the site.

Pollution

Any change in the environment caused by substances, radioactive or other waves, or noise, odours, dust or heat, emitted from any activity, including the storage or treatment of waste or substances, construction and the provision of services, whether engaged in by any person or an organ of state, where that change has an adverse effect on human health or well-being or on the composition, resilience and productivity of natural or managed ecosystems, or on materials useful to people, or will have such an effect in the future.

Furthermore, pollution can also be regarded as an undesirable state of the natural environment being contaminated with harmful substances as a consequence of human activities.

Reinstatement

Reinstatement is defined as the return of a disturbed area to a state, which approximates the state (where possible), which it was before disruption.

Sensitive environmental features

Environmental features protected by legislation (e.g. heritage resources) or identified during the EIA as sensitive through specialists' findings and input received from Interested and Affected Parties.

Subsoil

The soil horizons between the topsoil horizon and the underlying parent rock.

Topsoil

Topsoil can be regarded as the fertile upper part or surface of the soil.

Transplanting

The removal of plant material and replanting the same plants in another designated position.

Veld

Unimproved areas of natural vegetation.

Weeds and Invader Plants

Weeds and invader plants are defined as undesirable plant growth that shall include, but not be limited to all declared category 1, 2 and 3 listed invader species as set out in the Conservation of Agricultural Resources Act (No 43 of 1983) regulations. Other vegetation deemed to be invasive should be those plant species that show the potential to occupy in number, any area within the defined construction area.

2. PURPOSE

This Soil management plan describes specific soil management controls required for compliance EMPr and other relevant legislation. The main aim of a Soil management plan is to provide a guideline for the responsible management of soil within the construction footprint during the life cycle of the Mapleton Pump Station Upgrade Project.

3. SCOPE OF WORK

The method includes safely removing 150 – 300 mm of topsoil for separate storage, excavating for subsurface drainage or undercut for road construction, the process of constructing access roads, and excavating, laying, backfilling and rehabilitating the area.

The works will be carried out by dedicated and well-trained teams who prioritise safe and environmentally responsible procedures.

4. LEGISLATIVE FRAMEWORK

All project activities must comply with relevant South African legislation and regulations. Specific legislation that must be complied with includes, but is not necessarily limited to:

1. Hazardous Substances Act (Act No. 15 of 1973);
2. Conservation of Agricultural Resources Act (No. 43 of 1983);
3. Occupational Health and Safety Act (No. 85 of 1993);
4. Constitution of the Republic of South Africa (No. 108 of 1996);
5. National Environmental Management Act (No. 107 of 1998);
6. National Water Act (No. 36 of 1998);
7. National Heritage Resources Act (No. 25 of 1999);
8. National Environmental Management Protected Areas Act (No. 57 of 2003);
9. National Environmental Management: Biodiversity Act (No. 10 of 2004); and

10. National Environmental Management Air Quality Act (Act No. 39 of 2004);
11. National Environmental Management: Waste Act (No. 59 of 2008).

5. PROCESS OVERVIEW

The 150 - 300mm top layer of topsoil will be removed from the construction servitude, spoil sites and site camp area.

6. METHODOLOGY

6.1 EXCAVATION

- With any excavation, all soil must be replaced in the same order as they were removed. The sequence of replacing the soil layers plays a vital role regarding reinstating the subsurface layering of the soil profile.

6.2 TOPSOIL STRIPPING

- Topsoil shall be stripped from all areas to be utilised during construction period and where permanent structures and access is required.

- Soil shall be stripped to a minimum depth of 300 mm or to the depth of bedrock where soil is shallower than 300 mm. Herbaceous vegetation, overlying grass and other fine organic matter shall not be removed from the stripped soil.

- These areas will include all temporary and permanent access roads, construction camps and borrow pits.

- Topsoil shall be stripped after clearing of woody vegetation and before excavation or construction commences.

- Disturbance of topsoil on construction sites with severe slopes should be minimized at all costs.

- What topsoil is on site MUST be saved and stored. It is imperative that this soil be collected and stored to ensure that valuable seeds in the soil are not lost to the process of eventual rehabilitation of the site.

- No topsoil, which has been stripped, shall be buried or in any other way be rendered unsuitable for further use.

- Topsoil shall be stripped when it is in a dry condition to prevent compaction.

6.3 TOPSOIL STOCKPILING

- If the area requires a cut and fill of greater than 300mm, then the topsoil in that area is to first be removed, the cut and fill process completed and then the topsoil returned.

- Stripped topsoil shall be stockpiled on sites adjacent to where it has been stripped which have been approved by the Engineer/EMS.

- Soil stockpiles shall not take the form of windows, unless this can be placed far enough away from the working area. This is to prevent the soil from being spread out or mixed with the other spoil during construction.

- Topsoil stripped from different sites shall be stockpiled separately and clearly identified as such. Topsoil obtained from different soil types shall not be mixed.

- Soil stockpiles shall not be higher than 1,5m and the slopes of soil stockpiles shall not have a vertical/horizontal gradient exceeding 1: 1.5.

- No vehicles shall be allowed access onto the stockpiles after they have been placed. Topsoil stockpiles shall be clearly demarcated to prevent vehicle access and later identification as the resource for rehabilitation and vegetation establishment.

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- Soil stockpiles shall not be allowed to become contaminated with oil, diesel, petrol, garbage or any other matter which may inhibit the later growth of vegetation in the soil.

- After topsoil stockpiling has been completed the EMS shall apply soil conservation measures to the stockpiles in the form of veldt grass seeds, to allow grass to colonize topsoil piles during the construction phase.

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- All areas onto which topsoil is to be spread shall be graded to the approximate original landform with maximum slopes of 1:2,5 and shall be ripped prior to topsoil placement. The entire area to be top soiled shall be ripped parallel to the contours to a minimum depth of 150 mm.

- Topsoil shall be stored separately from subsoil and spoil, in heaps less than 2 meters in height along the edge of the servitude.

- No topsoil will be stored in wetland areas. Topsoil removed from wetland area shall be kept moist and watered at least once a week; and

- No topsoil will be stored in any drainage lines.

6.4 TOPSOIL REPLACEMENT AND SOIL AMELIORATION

- Execute top soiling activity prior to the rainy season or any expected wet weather conditions.

- Execute topsoil placement only after all construction work has ceased.

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- Replace and redistribute stockpiled topsoil together with herbaceous vegetation, overlying grass and other fine organic matter in all disturbed areas of the construction site, including temporary access routes and roads. Replace topsoil to the original depth.

- Place topsoil in the same area from where it was stripped. If there is insufficient topsoil available from a particular soil zone to produce the minimum specified depth, topsoil of similar quality may be brought from other areas of similar quality.

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- The suitability of substitute material will be determined by means of a soil analysis addressing soil fraction, fertility, pH and drainage.

- Do not use topsoil suspected to be contaminated with the seed of alien vegetation (e.g. black wattle, poplar,). Alternatively, the soil is to be sprayed with specified herbicides.

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- Shape remaining stockpiled topsoil not utilized elsewhere in an acceptable manner so as to blend in with the local surrounding area.

- After topsoil placement is complete, spread available stripped vegetation randomly by hand over the top-soiled area.

- In the event that no topsoil is available on site prior to construction, and thus no topsoil is available for rehabilitation, undertake suitable ameliorative action

Should additional topsoil be required to be brought onto site it must be of a suitable standard. (Mike Buyskes Construction must provide the EMS Manager with a sample thereof prior to having the product delivered to site.) It must be free of stones and organic matter in excess of 50mm.

- It must be loose and friable (to avoid crusting when compacted or watered.)
- It must be of a similar texture and moisture retaining ability to that on site.

- It must have a comparable or improved nutrient base to that on site.

6.5 HANDLING AND DISPOSAL OF CONTAMINATED SOIL

- The contaminated soil will be removed with a shovel and placed into a bag. For small spills soil will be removed to a depth of 100mm below the visible contaminated soil (wet soil). For larger spills remove soil to a depth of 300mm below the visible contaminated soil.

- Place contaminated soil into a container and treat with Oilcap, or another approved hydrocarbon encapsulator, as per the specifications of the treatment agent. Once clean the soil can be reinstated on the site.

- Should contaminated soils not be treated with a hydrocarbon encapsulator onsite, the contaminated soil will be placed inside an impermeable hazardous waste container for safe disposal at a licensed hazardous waste disposal facility. Safe disposal slips will be filed on site and made available to the Client.

6.6 TRAINING AND AWARENESS

- All employees working with hazardous substances, including cement will be trained on the MSDSs thereof and will be required to sign a register for such training.

- Continual awareness will be done on environmental hazards such as hazards pertaining to hazardous chemical substances, veldt fires, housekeeping, waste management, etc.

- A competent person will be appointed and trained as a fire fighter. Such training will consist of a Basic Fire Fighting Course.

- An emergency response team will be established and appointed consisting of emergency coordinators, first aiders and member/s of the fire team.

- Emergency drills will be held at least once every six months and a signed participation register will be kept for each drill.

7. CONSTRUCTION PROCEDURES

7.1 START DATE AND DURATION OF CONSTRUCTION

Starts on March 2025, and ends at the end of March 2026.

Where possible, construction, including site clearing shall take place during the dry season.

7.2 MATERIALS AND EQUIPMENT TO BE USED

- Construction plant

The following plant is likely to be used during the site establishment:

- Excavators (20 to 30 ton)
- Graders
- TLBs
- Tipper trucks
- Water carts

- Material

The following materials are likely to be used during the site establishment:

- Survey pegs
- Steel mesh
- Fence
- Steel standards/ wooden poles
- Green Shading net
- Jazzy barriers.
- Dump suck
- Chalk line powder
- Cement.
- Orange safety net and Danger tape.

8. RESPONSIBILITY

It is the responsibility of the Mike Buyskes Construction staff, Site Supervisor and Environmental Officer to ensure that the above measures are implemented effectively.

9. GENERAL

Modification of this method statement may be required from to time.

Approved by		Revision Number	0
Name	Signed		Date