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Addendum to Environmental Management Plan for Erf 1486, Vermont: No-go areas on Private Erven

June 2025

Updated September 2026

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TITLE: Addendum to Environmental Management Plan for Erf
1486, Vermont, No-go areas on private Erven

REFERENCE: EMP/1486/No-Go

REPORT DATE: June 2025, updated September 2025

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1. INTRODUCTION

The development of Erf 1486 Vermont is proposed. As part of the conditions of the Environmental Authorisation relate to 'no development zones' on residential erven. Some of the new proposed erven contain areas of seasonal / temporary wetland area. These areas are marked as no development areas where no hard construction and development will be permitted, in perpetuity.

The site is located in Vermont, a built up residential suburb of Hermanus. Assessment of the site as part of the National Environmental Management Act (NEMA) process, indicates that the site falls within the Ecological Support Area (ESA2) due to the presence of ecological corridor linking the Hoek van der Berg Private Nature Reserve located in the west of the subject property, the wetland situated on the central portion of the site as well as the Vermont Salt Pan located to the southwest. Some areas on site are impacted by human activities due to the presence of the residential dwelling and an access road. Additionally, a natural Unchanneled Valley Bottom Wetland is the most crucial feature of the site, which is currently in transformed state due to infill material from the stormwater runoff off the R43 and adjacent areas discharging stormwater runoff through culverts into the wetland area.

The vegetation cover on the property is classified as Hangklip Sand Fynbos, which is Critically Endangered as per the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) The Revised National List of Ecosystem that are Threatened and in Need of Protection. The vegetation on site is considered to be in a senescence state and is overdue for burning. Alien vegetation is present, but in low density.

1.1. Objective of this report

This report aims to define and guide the protection, maintenance, and management of the no development / No-Go areas within some of the newly proposed single residential erven of parent Erf 1486. These areas are associated with the delineated UVB wetland, which was demarcated during the Impact Assessment phase by the appointed freshwater specialist. In particular, the final preferred layout was designed to ensure that all residential erven avoid not only the permanent wetland area on site but all the seasonal / temporary wetland zones which fall on the residential erven.

Given the ecological sensitivity of the wetland and its role in maintaining hydrological connectivity between the Vermont Salt Pan and adjacent nature reserves, specific zones within the site have been designated as no development areas. These include:

- The 0.876 ha portion of the wetland retained as a private open space within the development layout.

The purpose of this plan is to:

- Clearly define the No Development Zones on each single residential erf.
- Provide guidance for permissible activities in these zones
- Ensure these areas are protected in perpetuity through legal mechanisms (e.g., title deed restrictions or management agreements with the Homeowners Association).

1.2. Mechanism for implementation

In order for the development to operate within the acceptable impact ratings identified in the NEMA process, the recommendations and mitigation measures as per the Environmental Authorisation must be upheld in perpetuity. It is imperative that the No-go areas on Erf 1 to 8 (Erf 9 does not contain any seasonal wetland areas), are highlighted in the description of these erven during their marketing and sale. A buyer must be made aware of what they are buying into before committing to the purchase. All estate agents or marketing teams must also be made aware of these requirements from the onset. The sale documents must include clear indications of where the No-Development area is located on each property and exactly what activities are permitted and excluded from this zone. The no development zones on the specified properties, should be marketed as an opportunity for a buyer to be part of an area wide ecological programme, rather than viewed as a restriction. Owners of these erven should be conservation minded and buy into the vision of reinstating optimal ecological function and habitat of the entire UVB wetland area.

A key component of the development's environmental compliance lies in the clear identification, protection, and management of No-go areas specifically, those portions of Erven 1 to 8 that fall within the delineated seasonal / temporary wetland zones of the Unchanneled Valley Bottom (UVB) wetland. These areas are designated as No-Go zones and are subject to strict development limitations. The properties that extend into the seasonal/temporal wetland areas (Erf 1 - 8) have specific development restrictions on them. All hard built elements including the dwellings, outbuildings, garages, paving, hard landscaping and swimming pools cannot be located within these No-Development Zones.

These non-developable exclusive use portions of these properties will be managed according to the requirements contained in this document and any additional documents referring to these restrictions. This document contains information and strict rules relating to what is and is not permitted in the No-go areas.

This document is considered mandatory and must feed into the Environmental Authorisation (EA), Environmental Management Plan(s) and Homeowners Association (HOA) / constitution. It must form as an Addendum to the Post Construction, Construction and Operational Management Plan for the proposed development and must form part of the auditable aspects as outlined in the pending Environmental Authorisation. It is also recommended that the conditions contained herein, are taken up into the Environmental Authorisation, as conditions of authorisation. In the long term, this document must be included in all sale agreements applicable to the applicable erven and must also form part of the Homeowners Association. It is also advised that this document be included in the applicable erven's Purchase Agreement and signed by the new owner.

2. APPLICABLE AREA

Erf 1486, Vermont is proposed for development. As part of the Environmental Authorisation process in terms of the National Environmental Management Act (Act 107 of 1998) and the EIA Regulations (2014), various specialists were appointed to provide input into the development application. The specialist team included the following:

- Aquatic Biodiversity Impact Assessment – Delta Ecology
- Terrestrial Animal Site Sensitivity Verification Report and Species Specialist Assessment Report – Jan A Venter - Wildlife Conservation Decision Support
- Terrestrial Biodiversity Impact Assessment – Nick Helme Botanical Surveys
- Wetland Offset, Rehabilitation and Management Plan – Delta Ecology
- Stormwater Management Plan – Deca Consulting Engineers

Due to the presence of the wetland on site, a Freshwater Specialist was appointed during the planning phase, to delineate the wetland on the subject property. The findings of the freshwater delineation are as follows:

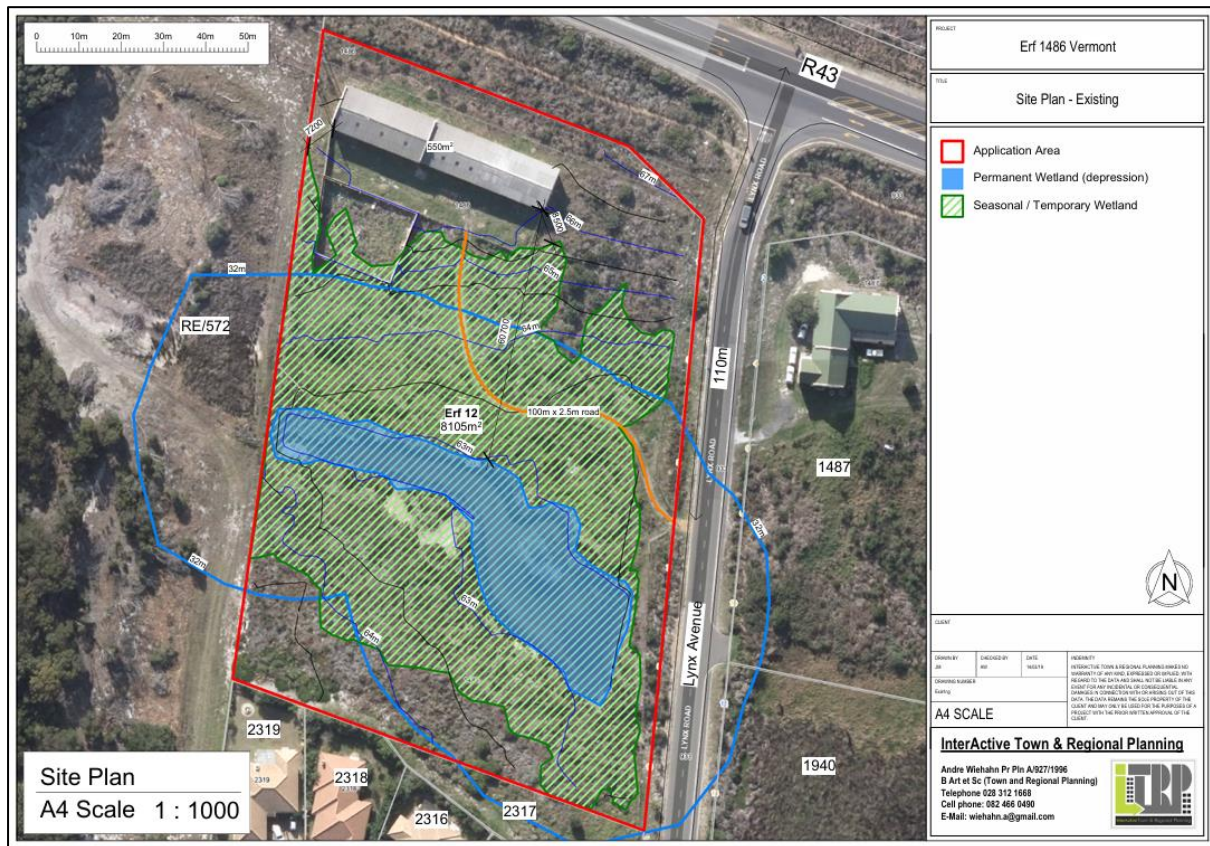


Figure 1. Wetland delineated within Erf 1486.

2.1. The Unchanneled Valley Bottom Wetland (UVBW)

Hydrology

- The natural flow regime of the UVB Wetland (UVBW) has been altered as a result of onsite disturbances such as the excavation to create the centre depression area, historical vegetation clearing and infilling, and catchment hardening associated with the dirt track and derelict houses onsite.
- Although there is an overflow pipe that crosses beneath Lynx Road and flows into the wetland on the far side, the construction of Lynx Road, and excavation within the centre of the site, has created a dam within the centre of the UVBW.
- The presence of nutrient rich laterite, in soils that are naturally nutrient poor, such as those on the proposed development area, are associated with the dominance of invasive species

such as the dense clumps of Kikuyu grass (*Pennisetum clandestinum*) seen onsite, which leads to altered surface roughness and therefore altered flow regimes in the wetland.

- The hydrology of the UVBW has been impacted by the presence of urban residential land use in the wetland's immediate catchment area. Urban land use such as residential areas and tarred roads have resulted in flow diversion and catchment hardening which is associated with increased runoff and storm peak flows.
- Additionally, a stormwater outlet is located in the southeast corner of the study area, which discharges runoff from the neighbouring housing development into the wetland.

Vegetation

- While several communities of indigenous hydrophytic species were noted onsite, there was moderate vegetation disturbance within the wetland area as a result of:
 - The excavation of the dam onsite;
 - Large areas of the site were brushcut during 2004;
 - Construction activities associated with the derelict houses onsite;
 - Dumping of rubble within the wetland area.
- The vegetation present within the wetland is characterised by a mixture of alien and indigenous vegetation. Alien invasive species noted onsite include dense clumps of Kikuyu grass (*Cenchrus clandestinum*) and pampas grass (*Cortaderia selloana*).
- No species of conservation concern were noted. According to the Botanist appointed for the proposed project, at least one plant SoCC (*Disa hallackii*) may be present in low numbers (Nick Helme Botanical Surveys, 2023).

Geomorphology

- The geomorphology of the UVBW wetland was largely modified by the excavation of the depression / dam area in the centre of the site.
- Additionally, historical vegetation clearing, infilling, and hardening across large areas of the site has resulted in extensive disturbance to the wetland's natural geomorphic state.
- The wetland system extends from the study area in a south-easterly direction and ultimately augments the Vermont Salt Pan. The construction of Lynx Road along the east of the wetland area seriously altered this portion of the UVBW's geomorphology.

Water Quality

- The water quality within the UVB wetland has been disturbed because of the adjacent infilling and compaction of the southern portion of the Erf which has resulted in:
 - Leaching of toxicants and nutrients from the infilling materials such as hydroxyl ions from cement particles and nitrates from laterite.
- The water quality within the wetland is likely to be impacted by the residential nature of the catchment.
- It is likely that runoff entering the wetland through the stormwater outlet in the southeast corner is polluted by the surrounding catchment area for example, runoff from roads is likely to contain contaminants such as laterite, oil, fuel, rubber from car tires and other pollutants.

2.2. Wetland status on site

A natural Unchanneled Valley-Bottom (UVB) wetland was confirmed and delineated on Erf 1486. Although the UVB wetland is in a largely disturbed and modified state (PES Category D), it retains moderate Ecological Importance and Sensitivity (EIS) and Wetland Ecosystem Service (WES) scores. These metrics indicate that the wetland is moderately sensitive and valuable in terms of biodiversity conservation and ecosystem services provision. Approximately 0.90 ha of the 1.50 ha site is covered by the delineated wetland. The current preferred development layout results in the loss of only 0.024 ha (3%) of this wetland, which was deemed unavoidable. The remaining 0.876 ha of the wetland, offering strong potential for rehabilitation, has been excluded from the development footprint and identified as an onsite offset area. A detailed wetland offset, rehabilitation, and management plan has been prepared to mitigate this impact and enhance the ecological value of the retained wetland area.



Figure 2. UVB wetland on Erf 1486, Vermont. The development of access roads over the seasonal/temporal zone of the wetland area indicated in red is permitted. The proposed development will result in 0,024 ha of wetland loss, this leaves the remnant 0,876 ha of the UVB wetland available to be used as an offset for the development activities.

3. APPLICABLE ERVEN

Based on the wetland delineation as well as the input from the remaining specialist team, the preferred alternative as assessed in the NEMA Application is as follows:

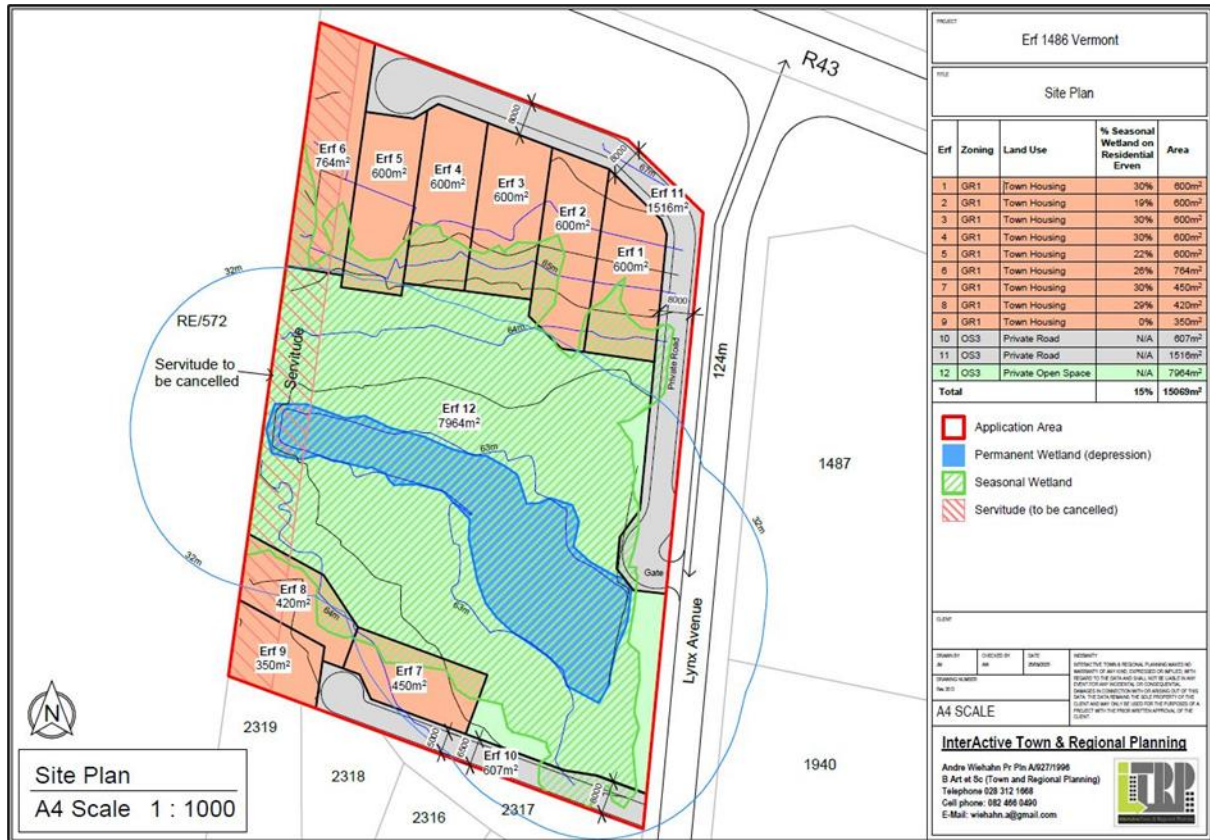


Figure 3. Development layout for Erf 1486, Vermont.

Erven 1 to 8, all contain portions which fall within the seasonal/temporal wetland zone and therefore contain a No-go area on their erf. These erven are strictly subject to the conditions of this report.

Table 1 below shows the breakdown of the erven on the proposed residential development and identifies the erven which contain the **No-go** areas:

Erf no.	Erf Size (m²)	Undevelopable Area (m²) (No development zone)	Zoning
1	600	180	Residential Zone 1: Single Residential
2	600	114	Residential Zone 1: Single Residential
3	600	180	Residential Zone 1: Single Residential
4	600	180	Residential Zone 1: Single Residential
5	600	132	Residential Zone 1: Single Residential
6	764	199	Residential Zone 1: Single Residential
7	450	135	Residential Zone 1: Single Residential
8	420	122	Residential Zone 1: Single Residential
9	350	N/A	Residential Zone 1: Single Residential
10	607	N/A	Private road
11	1516	N/A	Private road

12	7964	N/A	Private Open Space
TOTAL	15071	1242	

Table 2. Erven containing No-go areas and size information.

Erf no.	Erf Size (m ²)	Developable area (m ²)	Undevelopable Area (m ²) (No development zone)	Zoning
1	600	420	180	Residential Zone 1: Single Residential
2	600	486	114	Residential Zone 1: Single Residential
3	600	420	180	Residential Zone 1: Single Residential
4	600	420	180	Residential Zone 1: Single Residential
5	600	468	132	Residential Zone 1: Single Residential
6	764	565	199	Residential Zone 1: Single Residential
7	450	315	135	Residential Zone 1: Single Residential
8	420	298	122	Residential Zone 1: Single Residential

3.1. Definition of the Regulated Area

During the Construction Phase of the development and building of homes, the areas defined by the delineated seasonal wetland are considered as strict **No Go area** and defined as such. Only where once off installation of service infrastructure or perimeter boundaries are required, will construction be permitted in this zone. The construction activities in this Regulated Area must be undertaken with pre-approval by the appointed Environmental Control Officer (ECO) or similar appointed person. The boundaries of the **No-Go** area must be clearly demarcated on site using high visibility fencing or equivalent barriers for the full duration of the construction works, and all contractors and personnel must be made aware of this restriction through induction and signage.

During the operational phase of the development, when homeowners occupy and utilize their residences, the entire extent of the delineated seasonal and permanent wetland areas are termed the Regulated Areas with only pre-approved permissible activities being permitted in this restricted zone. No landscaping, dumping of garden refuse, construction of pathways or structures, or any other encroachment or activity that could disturb the ecological integrity of the wetland will be permitted within this zone. The area must be maintained as a conservation feature in perpetuity, and homeowners must be made aware of these restrictions through the inclusion of conditions in the homeowner's association constitution and title deed documentation.

4. CONSTRUCTION ACTIVITIES

In terms of the Construction Phase of development, the entire permanent and seasonal/temporal zone must be identified as a strict No Go, no entry area. Entry to this area is only permitted as part of planned and specified construction actions, and in consultation with the Site Manager and appointed Environmental Control Officer, or other duly appointed representative. If and when entry is required, the Method Statement for works must be provided to the Site Manager and Environmental Control

Officer (ECO) and only approved construction staff may enter this zone. Only activities as outlined in the Method Statement may be permitted and movement in this area must be confined to immediate work areas only. No stockpiles, batching or mixing can take place in the No Go area.

The No Go area must be clearly demarcated at the commencement of construction works, including alien clearing activities. All fencing used for demarcation of the No Go area, is to be erected prior to construction works and must remain in position and in good repair for the duration of the works. No materials, rubble or equipment is to be stored or stockpiled within the fenced No Go areas and no batching or mixing is permitted in this zone. No one permitted to enter these areas during the construction phase, without permission. Any deviations from these specifications are subject to the approval of the appointed Environmental Control Officer (ECO) and Site Manager.

The No Go area must be demarcated with a rigid temporary fencing type which will be removed after construction. **No barrier tape is permitted for demarcation of this No-Go area.**

The Site Manager and ECO must familiarise themselves with the full set of recommendations for the site and reasons for these recommendations, as well as understand the site and constraints analysis and be able to identify the constraints / No Go areas.

General construction related mitigation measures as outlined in the Environmental Authorisation and Environmental Management Plan are applicable as well as the following specific conditions:

4.1 Specific construction mitigations

The following construction specific mitigations are applicable at all times during construction:

1. All construction workers must be made aware of the No Go and Regulated Areas and the reasons for it.
2. Avoid encroachment into the delineated Unchanneled Valley Bottom Wetlands (UVBW's) (Orange and Blue wetlands) during construction using the specified barriers. Barriers must be weatherproof and inspected daily during construction. Barriers must be temporary in nature but strong and visible. Barrier tape is not considered a sufficient form of barrier for the No Go area. Temporary fencing, which is robust enough to withstand the elements, should be used.
3. A suitably qualified Environmental Control Officer (ECO) must be appointed during the construction phase to ensure that recommendations as per this report, and other specialist reports, are implemented. A member of the construction team should also be identified as a responsible person and be made aware of the construction related requirements and reasons for them.
4. Construction teams are to be educated at the start of development about the sensitivity of the site. Information must be provided about the wetlands and the extent of the seasonal and temporary wetland zones as well as the sensitive fauna on site including the Cape Dwarf Chameleon. A No Kill policy is mandatory.
5. Should curbs be used, these must be toad-friendly i.e. small curbs stones that are less than 50 mm tall, or half road gutters which provide passageways for toads. These can be implemented throughout the estate or at intervals of 50 m.
6. The estate should install non-chlorinated eco pools, ideally with a "beach pool" design with gently sloping sides emulating the natural bank of a wetland allowing toads to enter and exit the pool freely. Alternatively, if a pool design with high sides is installed, incorporate escape

pathways such as toad ladders, toad friendly steps, or floating vegetated platforms anchored to the side of the pool.

7. The alien invasive vegetation (specifically *Eucalyptus spp.*) present within the UVBW wetland areas must be removed and replanted with indigenous wetland vegetation. A suitable Rehabilitation and Management Plan should be drafted for the UVB wetlands onsite upon Environmental Authorisation.
8. Site clearance, infilling and compaction in the catchment area of the UVBWs may result in alteration of the flow regime of the UVBWs. The significance of this impact can be largely mitigated by establishing a buffer area around the UVBW wetland areas; and by ensuring that runoff and / or stormwater generated onsite flows into the wetland areas through an appropriately designed broad, vegetated earth swale, with temporary debris and silt traps where necessary.
9. Accidentally spilled cement, construction chemicals, sewage from temporary toilets or petrochemicals from construction vehicles may find their way into the UVBWs. The significance of this impact can be largely mitigated by demarcating the UVBWs as No Go areas during construction. Bunded, impervious areas that are more than 32m away from the UVBW must be designated by the ECO for temporary toilets, vehicle parking/servicing areas, and for pouring and mixing of concrete/cement, paint, and chemicals.
10. Raft foundations must be used to reduce impact on the subsurface flows
11. To protect the development from flooding it must be ensured that the properties are raised above at least 1.0m above the wetland height area.
12. The Stormwater Management Plan must be fully implemented on site to mitigate the risk associated with stormwater runoff through construction of Permeable Paving System and Enhanced Swale System. These systems shall be regularly inspected and maintained as required to ensure effective stormwater attenuation, infiltration, and quality control.
13. Long term maintenance of ecological integrity of the 'private open space' is critical. Therefore, measures should be put in place for constant removal of alien vegetation, cleanup of litter and prevention of illegal dumping. Clear legal responsibility for the maintenance of the space should be entrenched to be the responsibility of the homeowners association.
14. Any fences or boundary walls which are located in the seasonal and permanent wetland area, must be permeable to allow for movement of small fauna which may be using the site e.g. small antelope, genets, mongoose.
15. A search and rescue effort should be implemented before and during construction where animals that are found are released in the adjacent nature reserve. Sheraine van Wyk from Whale Coast Conservation, Chameleon project must be contacted to facilitate the Search and Rescue (Email: sheraine.wcc@gmail.com / Tel: 0834840202).
16. Any boundary fencing used must be permeable to small animals at ground level.
17. The authorised erf and road boundaries should be surveyed and pegged out and fenced on site prior to any site development.
18. All alien invasive vegetation should be removed from within the natural portions of the project area, prior to any authorised development. Removal of the alien vegetation must be undertaken by a trained and licensed alien vegetation removal team, and must be undertaken using methodology outlined in the Best Practise Guidelines (see Martens *et al* 2021).

5. OPERATIONAL ACTIVITIES

The properties that extend into the Regulated Zone / No development area (Erf 1 -8) have specific development restrictions on them. All hard built elements including the dwellings, outbuildings, garage, paving, hard landscaping and swimming pools cannot be located within the zone. These non-developable exclusive use portions of these properties will be managed according to the requirements contained in this document and any additional documents referring to these restrictions. This document contains information and strict guidelines relating to what is and is not permitted in this Regulated Zone.

In order for the development to operate within the acceptable impact ratings identified in the NEMA process, the recommendations and mitigation measures as per the Environmental Authorisation must be upheld in perpetuity. It is imperative that the No-go areas on Erf 1 to 8, are highlighted in the description of the erf during sale. A buyer must be made aware of what they are buying into before committing to the purchase. All estate agents or marketing teams must also be made aware of these requirements from the onset. The sale documents must include clear indications of where the No Go starts on each property and exactly what activities are permitted and excluded from this zone. The no development zones on the specified erven, should be marketed as an opportunity for a buyer to be part of an area wide ecological programme, rather than viewed as a restriction. Owners of these erven should be conservation minded and buy into the vision of reinstating optimal ecological function and habitat of the entire Unchanneled Valley Bottom Wetland.

The general Operational mitigations as outlined in the Environmental Authorisation and Environmental Management Plan are applicable, as well as the following specific requirements:

5.1. Specific operational conditions in No-go areas

The actions listed below are considered mandatory:

1. No encroachment of built infrastructure and artificial landscaping is permitted within the Regulated Zone, apart from the permitted limited activities discussed below.
2. No pools, paving, hard landscaping, domesticated gardens, brick and mortar walls, buildings or outhouses are permitted within the Regulated Zone.
3. All households must tie into mainline municipal sewage. No onsite sewage treatment, irrigation with wastewater or soak-aways are permitted. No chemical fertilisers, herbicides or pesticides are permitted.
4. Only natural indigenous vegetation, in line with recommendations of the Rehabilitation plan, are permitted with the aim to create a natural habitat as part of the individual erf which contributes to the entire systems natural habitat. No lawns are permitted in this zone. Lawns on areas outside of the Regulated Area, and entire estate must be restricted to indigenous natural, local species only, no kikuyu is permitted. Road verges should be planted with ground covers like *Arctotis* and *Gazania* sp.) to provide safe corridors for frogs and other animals to move through.
5. Boundary walls and fences: The erection of boundary walls and fences within the seasonal and temporary wetland areas (Regulated Zone) must be carefully considered and approved by the Homeowners Association (HOA) prior to installation. No brick-and-mortar, 'Vibracrete' or precast type boundary walls may extend into the Regulated Area. Consideration can be

given to appropriate fencing options as a form of demarcation of each erf. Walls and Fences with foundations will impact subsurface water flows. Fences and boundary walls contribute to habitat fragmentation and create impermeable barriers for toads and other small fauna which may move across and in and out of the site and erven. This would negatively impact the animals access to habitat and foraging. All fencing which is required within the Regulated Area, must be visually unobtrusive, and designed in such a way to allow the movement of small fauna between the wetland and within the Ecological corridor and link. Considerations in design must include height, where fences become too high for animals to jump, or too low for animals to crawl under. Spacing and loose wiring also create problems for fauna. 'Bonnox' type game fencing is recommended.

The following considerations must be implemented when considering fence type in the Regulated Area:

- Visible to animals
- Allows animals to jump over or crawl under
- Allows for access to the habitat (i.e. Wetland and riparian zone) and movement / travel corridors (i.e. up and down the entire Mill Stream from the Eye to the Kleinrivier).

The following options must be used for fencing in the Regulated Zone:

- Utilising a "living" fence for privacy where plants, trees or hedge (indigenous only) are used to demarcate the private erven in the regulated area
 - Use low fencing with sufficient gaps below and between uprights
 - Use fencing that is visible to fauna, particularly birds
 - Use materials that avoid snagging or entanglement
 - Use elements with natural look and feel
 - Restrict unregulated access of domesticated pets to these areas
6. Activities which may result in compaction, must be avoided.
 7. No pesticides of any kind are permitted.
 8. The parts of the erven which fall into the Regulated Area must be inspected on a quarterly basis by the Site Manager or appointed representative to ensure that the activities which are taking place in this zone are in line with the specific rules for this area. A incentive scheme or system of fines can be set up as part of the Home Owners Association to regulate and monitor activities in these areas.
 9. Pets (especially domestic cats) should not be allowed to free-roam the 'private open space'.
 10. The Homeowners Association (HoA, or similar) for the proposed development must ensure that all alien invasive vegetation (as per NEMBA legislation) is removed from the Public Open Space area on an annual basis by qualified contractors, using methodology as prescribed in Martens et al (2021; see below for reference). The HoA must ensure that there is adequate funding for this every year.
 11. Discharge stormwater from rooftops into rain harvesting tanks. This will limit the volumes of stormwater runoff that will reach the wetland. Where possible, water collected in rain harvesting tanks can be utilised for flushing of toilets, washing etc.
 12. Vegetated swales must be utilised rather than concrete drains or underground stormwater pipes in order to encourage infiltration, particularly next to roadways.

13. Energy dissipaters / erosion protection measures (such as lining with stones, grass, reno-mattresses, or gabions) must be constructed where stormwater is released in order to reduce the runoff velocity and therefore erosion.
14. Sheet runoff from hardened surfaces must be intercepted and the treatment and infiltration of runoff must be promoted.
15. Sediment traps should be incorporated into stormwater drains / swales upstream of all discharge points into the wetland.
16. All stormwater draining into the wetland must receive basic filtering and treatment prior to its release.
17. Incorporate measures into the stormwater design to trap solid waste, debris and sediment carried by stormwater. Measures may include the use of curb inlet drain grates and debris baskets/bags.
18. Stormwater generated from areas with a higher risk of contamination such as parking areas and roads must receive basic filtering and treatment prior to its release into surrounding areas. Treatment methods may include sand filter traps and oil-water separators which will require maintenance.
19. The extent of hardened surfaces must be minimised. E.g. where required permeable paving must be used.
20. Homeowners must landscape their gardens with the use of indigenous species to decrease the area of hardened surface and increase infiltration.
21. Homeowners should store any potential pollutants in such a way that pollution will not occur to the wetland (such as any fuel, etc.). Potential pollutants should be stored in an adequately bunded area.
22. The use of herbicides, pesticides and any other poisons within private gardens must be strictly prohibited. The homeowner's association must be responsible for ensuring that residents are compliant with this.
23. Backwashing of swimming pools directly into the wetland must be strictly prohibited. Backwash water can be collected in settling tanks where dirt and debris settle to the bottom. The cleaner water can then be reused for non-potable purposes or even filtered back into the pool system. Backwash water can be diverted to greywater tanks.
24. Monitor the proposed development and adjacent wetland for erosion and sedimentation after heavy rainfall events. Any erosion noted must be immediately addressed. Rehabilitation measures may include the removal of accumulated sediment by hand, filling of erosion gullies and rills, the stabilisation of gullies with silt fences, riprap, and the revegetation of stabilised areas.
25. Stormwater systems will require ongoing maintenance. Any build-up of silt or debris within stormwater drains or swales will need to be cleared to ensure the continued functioning of the systems.
26. Any damage to stormwater infrastructure, and any flaws identified in the functionality of stormwater infrastructure, must be rectified immediately.
27. Stormwater systems must be monitored and maintained into perpetuity and collections of debris and solid waste removed from grates and baskets. The developer must confirm who will be responsible for this monitoring and maintenance as well as their roles.
28. The stormwater system must be designed by a suitably qualified engineer with input from an aquatic specialist.
29. Soft engineering approaches are generally encouraged over hard engineering approaches, although they will not always be appropriate or cost effective depending on the situation. Soft

stabilization techniques include geotextiles, fibre mats / nets / blankets / bags, brush mattresses, sandbags, and live staking.

30. Cover affected portions with a geotextile fabric, secured with stakes. Cut holes in the fabric for planting. Plant a mixture of the plants recommended as per Section 8.6. Gradually remove the fabric as plants become established.
31. Erosion rills and gullies must be filled with rocks of between 5cm and 20 cm diameter and silt fences or fascine work must be established along the gulley for additional protection until vegetation has established.
32. Rip / loosen compacted surfaces to a depth of approximately 30 cm to improve infiltration and reduce runoff.

6. LIMITED PERMITTED ACTIVITIES

Only limited activities and infrastructure are permitted within the No-go area. The aim of this area is to create a natural environment which has a positive contribution to the over ecological functioning and habitat provision of the wetland area. Only indigenous gardens are permitted which reflect the natural Unchanneled Valley Bottom Wetland environment.

7. DEMARCATION OF THE NO-GO AREA DURING OPERATION

It is important that property owners and users of the site are aware of where the No-go Areas / Regulated Zones are on site and the extent of these. This will help regulate the activities which take place in these sensitive zones, prevent development creep and associated operational impacts. As discussed above, these areas are not permitted to be demarcated with brick-and-mortar walls but rather appropriate low fences. It is recommended that appropriate signage is used to educate the users of the site about the No-go areas, rules of these areas, access to these areas and the extent. The No-go areas are not considered open for all, and carefully designed for rehabilitation and restoration of the private open space.

8. ENVIRONMENTAL CONTROL ON SITE

8.1. Approach

The Table below illustrates the various approaches to be undertaken to manage potential scenarios as a result of the operation of the activity on site:

Table 3: Impact management

Avoidance	Avoiding activities that could result in adverse impacts and/or resources or areas considered sensitive.
Prevention	Preventing the occurrence of negative environmental impacts and/or preventing such an occurrence having negative impacts.
Preservation	Preventing any future actions that might adversely affect an environmental resource.

Minimisation	Limiting or reducing the degree, extent, magnitude, or duration of adverse impacts through scaling down, relocating, redesigning and/or realigning elements of the project.
Mitigation	Measures taken to minimise adverse impacts on the environment.
Enhancement	Magnifying and/or improving the positive effects or benefits of a project.
Rehabilitation	Repairing affected resources, such as natural habitats or water resources.
Restoration	Restoring affected resources to an earlier (possibly more stable and productive) state, typically, 'background' or 'pristine' condition. These resources may include soils and biodiversity
Compensation	Compensating for lost resources, and where possible, the creation, enhancement or protection of the same type of resource at another suitable and acceptable location.

8.2. Organisational Structure and Responsibilities

A Homeowners Association (HOA) is required to manage the day-to-day requirements on site and to ensure the long-term implementation of the conditions of this plan, as well as the Environmental Authorisation (EA) and Environmental Management Plan (EMP). The HOA or appropriately nominated person, must set up a mechanism to monitor the activities within the No-go area and check for compliance on a quarterly basis.

Environmental Control Officer / Environmental representative

A suitably qualified person must be nominated as the Environmental Control Officer / Environmental Officer, to oversee operations on site and ensure compliance with conditions of the EMP as well as additional requirements in terms of permitting conditions. This person should act as a custodian for the environment during operations. Professional input should be sought as required and audits on the performance and adherence to the EMP's should be undertaken by an independent qualified person as required.

The following is a list of typical responsibilities of an ECO:

- To environmentally educate and raise the awareness for environmental education on site and to facilitate the spread of the correct environmental attitude during operation
- To review method statements and to determine the most environmentally sensitive options
- To oversee the implementation of environmental procedures set out in this document and the EA
- To attend meetings, as required and report on environmental issues
- To receive notices and minutes of all operational meetings regarding the environmental and operational activities, changes, renovations, complaints, problems etc.

- To take immediate action where infringements are recorded
- To keep an up-to-date record of operations, as they relate to environmental issues
- To be contactable by the public regarding matters of environmental concern during the operation
- To know who to contact when specialist input or emergency actions are required

9. ENVIRONMENTAL AWARENESS

All Homeowners, Contractors and employees associated with the operation of the proposed activity must be made aware of the requirements of the site and the continual environmental due diligence and conservation to be applied at all levels of operation. Employees, contractors, and sub-contractors must be made aware of their responsibilities in terms of relevant legislation, guidelines, as well as authorisation conditions.

9.1. Aim of the Environmental Awareness

- Promote environmental education and conservation on site
- Inform employees and any new contractors on the applicable environmental procedures and plans.

9.2. Environmental Awareness Training and content

- All personnel should undergo induction, which as a minimum should include Safety, Health, and Environmental awareness
- All attendees should sign an acknowledgement register upon receiving and understanding the induction
- How and why environmental protection is necessary, should be explained
- Management measures required to prevent environmental impacts should be outlined
- Awareness should be made of emergency and spills response procedures
- Site specific mitigations must be communicated to relevant personnel
- No Go zones must be indicated

10. METHOD STATEMENTS

Method Statement(s) must be submitted to the Homeowners Associated and ECO by the appointed contractors during any new construction or maintenance actions required in the No-go areas. The Method Statement must be provided to the relevant parties prior to commencement of any construction activities. Any amendments to the Method Statement must be lodged with and approved by the ECO / EHSR. The method statements must include the following information:

- Construction procedures and location of the construction site including description of the work to be undertaken; sketch maps can be used
- Start date and duration of the procedure

- Materials, equipment, and labour to be used
- How materials, equipment and labour would be moved to and from the site as well as on site during construction
- Storage, removal and subsequent handling of all materials, excess materials, and waste materials of the procedure
- Emergency procedures in case of any potential accident / incident which could occur during the procedure
- Mitigation measures that will be employed
- Compliance / non-compliance with the EMP Specification and motivation if non-compliant

It is the Homeowners responsibility to ensure that Method Statements are submitted at a reasonable time prior to commencement.

Table 3. Method Statement for works in the Regulated Zone

Method Statement title:		
Erf No.		
Date:		
Description of activities:	<i>Brief description of work to be undertaken</i>	
Frequency / duration:	<i>How often will the works be required</i>	
Commencement date:	<i>When</i>	
Location on site:	<i>Where</i>	
Required materials, machinery, and equipment:	<i>What</i>	
Details of how actions will be carried out:	<i>Detailed description of the activities, step by step detail, methods</i>	
Storage of materials:	<i>Description of materials required and how and where they will be stored</i>	
Storage and disposal of waste:	<i>Description of materials required and how and where they will be stored</i>	
Contractor Details:		
APPROVAL		
	ECO	CONTRACTOR / HOMEOWNER
Signature:		
Date:		

11. MAINTENANCE MANAGEMENT

In terms of the National Environmental Management Act (NEMA) (Act 107 of 1998) any activities which occur within a No-go area, will require Environmental Authorisation, however general Maintenance and repair activities which are required from time to time, can fall within an Approved Maintenance Management Plan (MMP). As part of the Environmental Authorisation process for development of Erf 1486, a site specific MMP was developed. It is important that owners with properties which extend into the No-go areas are aware that activities within these zones, are regulated in terms of what can or cannot take place here in terms of NEMA.

The following specific environmental legislation is applicable to this area and the sites Maintenance Management Plan:

→ NEMA EIA Regulations 2014 (as amended) relating to the following listed activities

- Listing Notice 1, Activity 19 - *The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from - (i) the seashore; (ii) the littoral active zone, an estuary or a distance of 100 metres inland of the highwater mark of the sea or an estuary, whichever distance is the greater; or (iii) the sea; - but excluding where such infilling, depositing, dredging, excavation, removal or Moving - (f) will occur behind a development setback; (g) is for maintenance purposes undertaken in accordance with a maintenance management plan; (h) falls within the ambit of activity 21 in this Notice, in which case that activity applies; (i) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.*
- Listing Notice 3, Activity 12 - *The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.*

→ The National Water Act 36 of 1998 relating to the following Section 21 water uses:

- Section 21 (c): Impeding or diverting the flow in a watercourse; and
- Section 21 (i): Altering the bed, banks, course or characteristics of a watercourse.

Typical maintenance and management actions within the No-go will include:

- General site maintenance, repair and upkeep of infrastructure within the No-go area
- Cleaning and maintenance of stormwater retention and polishing areas
- Clearance of alien vegetation and reeds
- Erosion control and repair after flood events
- Unblocking of pipelines under the bridge
- Sediment removal and clearing of accumulated debris on as required

- Rehabilitation and restoration for improved ecological functioning
- Inspection and maintenance of Permeable paving System and Enhanced Swale System (Refer to **Section 5.8** of the Stormwater Management Plan)
 - Ensure that the porous paver and outlet structures are free of sediment
 - Check that the system dewater between storms
 - Ensure that contributing area and porous paver surface are clear of Debris
 - Ensure that the contributing and adjacent area is stabilized and mowed with clippings removed
 - Vacuum sweep porous paver surface to keep free of sediment
 - Inspect the surface for debris or spalling
 - Totally rehabilitate the porous paver system, including the top and base course as needed
 - Check for scouring channeling and erosion – Repair as necessary
 - Check for scouring channeling and erosion – Repair by adding soil and replanting as necessary
 - Check for scouring channeling and erosion – Repair by adding soil and replanting as necessary
 - Check stormwater is filtering through soil following storm events – Remove weeds
 - Check outlet for scouring or erosion – Repair as necessary
 - Remove rubble and debris
 - If grassed – mow channel to shorter than 150mm
 - Use catcher and remove clippings
 - Re-seed bare patches of grass and water in dry conditions
 - If planted – check plants are healthy, and growth is dense
 - Remove weeds
 - Replant gaps and water new plants in dry conditions
 - Check plants are healthy, and growth is dense.
 - Remove weeds
 - Replant gaps and water new plants until established
 - Remove rubble and debris from outlet grate or catchpit
 - Check for boggy patches and ponding of water
 - Check soil is not compacted and aerated surface or top up dips to repair
 - Remove weeds, rubble and debris
 - Replant gaps and re-seed bare patches and water if required to establish
 - Aerate soil to prevent natural compaction, similar to coring sports field and bowling greens
 - Check stormwater is filtering through soil by either monitoring after storm runoff or by running water across swale
- It is recommended that care must be taken to avoid disturbance of intact natural wetland habitat during the removal of rubble and infill and that removal should be overseen by a suitably qualified contractor. After the removal it is recommended that an aquatic biodiversity specialist should inspect the site to ensure all fill material has been removed. A minimum of two site visits from a freshwater specialist will be required to ensure rehabilitation success:

- A site visit after the removal of fill material, rubble, etc. from the onsite wetland has been completed to ensure that the final result is in line with the requirements of this management plan.
- A site visit 12 months after planting has taken place.
- All foreign fill material (building rubble, fill material from dirt road etc.) must be removed from the onsite wetland prior to additional wetland rehabilitation interventions. The removal of infill must occur at the start of Summer, and not during the Winter rain season to prevent downstream sedimentation or erosion in this area. The substrate in the remnant wetland area should consist only of natural soils.
- All foreign fill material must be appropriately disposed of at a designated waste facility offsite. No building rubble/cleared plant material may be dumped within a natural area or within 200 m of any onsite watercourse. Once the fill material is removed from the wetland, reshaping and reprofiling should be done in the disturbed areas to ensure the wetland profile is stable and well-integrated. Once completed all cleared areas must be revegetated with appropriate indigenous species as per **Section 8.6** of the Wetland Offset, Rehabilitation and Management Plan.
- To ensure adequate rehabilitation, planting must be done at a reasonable density of approximately 4 plants per square meter. The recommended general planting procedures are as follows:
 - Use a spade to dig a square hole that is 1.5 times the depth and 2 times the width of the bag containing the plant.
 - Remove the plant from its container and carefully loosen the soil by hand, being careful to not damage the roots and maintain as much of the soil as possible.
 - Place the plant and associated soil in the hole.
 - Replace the soil originally removed and ensure that it forms a slight depression (1-3 cm below the level of the surrounding soil) with the plant in the centre of the depression.
 - Compress the soil firmly by hand.
 - For plants placed in the temporary zone watering should be done approximately once every three days for the first six months after planting unless rain has fallen within the preceding 24 hours. Rainfall during the winter months (June – August for the proposed site) can substantially reduce the required watering effort. However, given that revegetation within the onsite offset wetland needs to be undertaken as rapidly as possible planting should be initiated as soon as the infill has been removed from the wetland area, and the remnant wetland has been appropriately shaped along with sufficient watering efforts.
 - The best time for planting is autumn (March-May). This allows for the plants to establish roots before being subjected to heavy rains. Planting in autumn therefore reduces the risk of erosion / sedimentation, having plants wash away and will reduce watering requirements.
- Procedure for sowing seeds:
 - Use a rake to lightly disturb areas of bare soil.
 - Spread seeds from indigenous wetland plant species evenly across prepared soil.
 - The best time to sow the seeds is in autumn.

- Conduct maintenance on the areas where the seeds were sown, carefully remove any weeds.
- Procedure for planting propagules:
 - Obtain healthy adult plants with sufficient plant material to generate propagules.
 - Neatly cut the stem based on individual species requirements using pruning shears.
 - Plant propagules as per the general planting protocol. A 20 cm wide by 20 cm deep hole should be sufficient for the cutting. Ensure that approximately half of the cutting is below ground while the other half is above ground.
- Prior to revegetation, the onsite offset wetland and UVB wetland must be inspected and photographed to serve as a record for the pre-planting condition of the area. Following the implementation of revegetation interventions, monitoring must be undertaken to determine the relative success of revegetation:
 - The wetland area must be inspected by a freshwater specialist after planting has been conducted and thereafter every 6 months until the required cover (80%) has been achieved. Photographs must be taken of the planted areas to document the revegetation process.
 - The site must be inspected by a SACNASP registered freshwater specialist 12 months after the revegetation plan has been completed to determine whether the required degree of cover (80%) has been achieved.
 - If the required 80% total cover has not been achieved, recommendations from the SACNASP registered freshwater specialist to improve cover must be provided.

The Homeowners in the No-go areas must refer to the Maintaining Management Plan, Stormwater Management Plan and Wetland Offset, Rehabilitation and Management Plan, which is attached within the approved Environmental Management Plan.

12. COMPLIANCE AND MONITORING

The monitoring of works on site is necessary to demonstrate compliance with the specifications of the conditions of this report, the Environmental Authorisation and Environmental Management Plan and to allow for problems or issues of non-conformance to be identified and appropriate corrective measures implemented in order to minimize environmental costs.

Monitoring must include regular site inspections by the ECO / HOA / Site Manager as well as visual checks by the Site Manager on a daily basis during construction. Review of site documentation is also required from time to time. It is expected that onsite monitoring by the ECO or specialist will be required more frequently at the onset of any new works or changes which may take place in terms of existing operations.

Construction Monitoring is done through the use of Environmental Control Sheets, ECO site inspections, monthly ECO reports and environmental audits at a frequency outlined in the conditions of EA or deemed necessary.

Operational monitoring of the No-go area must be done on a quarterly basis as described herein.

13. ENVIRONMENTAL AUDITS

The purpose of auditing is to determine and monitor compliance with the EMP, EA and various other bodies or permits as required for operation and measure its effectiveness in mitigating environmental impacts. In terms of Regulation 34 of the NEMA EIA Regulations, 2014, the holder of the EA must conduct environmental audits in order to determine compliance with the conditions of the EA and EMP.

Construction Environmental Audits will be done in line with the Construction EMP.

Operational Environmental Audits are required to determine the owner's environmental due diligence. The audit reports should be prepared by an independent person. The audit report should also provide recommendations regarding the need to amend the EMP. It is suggested that biannual internal audits on the No-go area are undertaken by the HOA or ECO.

The objective of the environmental audit report is to:

- Report on the level of compliance with the conditions of the EA and the EMP
- Report on the extent to which the avoidance, management and mitigation measures outlined in the EMP, achieve the objectives and outcomes of the EMP
- Identify and assess any new impacts and risks as a result of the activity
- Evaluate the effectiveness of the EMP
- Identify shortcomings in the EMP
- Identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMP

14. NON-COMPLIANCE

The Environmental Authorisation (EA) stipulates that, *“Non-compliance with a condition of this Environmental Authorisation and the EMP may render the holder liable to criminal prosecution.”* It is therefore important that the conditions are adhered to as outlined in the EA and EMP and other applicable permits. A Penalties scheme can be used during construction for transgressions.

The Contractor, Operator and / or homeowner, must comply with the environmental specifications and requirements on an on-going basis. In the event of non-compliance, the following recommended process is to be followed:

- The ECO / HOA / Site Manager must issue a notice of non-compliance to the offender, stating the nature and magnitude of the contravention and rectification actions and timeframes
- A written statement describing the actions taken, the actions taken to mitigate its effects and the expected results of the actions should be submitted to the ECO / HOA by the offender
- Where the non-compliance situation is not rectified within the predetermined time frame, a penalty can be applied.

- In the event of a dispute or difference of opinion between any parties with regard to, or arising out of interpretation of the conditions of the EMP / EA / MMP / No-go Area Plan etc., the party shall be entitled to refer the matter to the specialists and / or the competent authority for final determination.

15. CONCLUSION

The conditions above relate to activities within the No-Go areas on Erf 1486, Vermont. Specific provisions are made for activities in these zones and adherence to this plan is mandatory for all applicable landowners. The new owner of the erven in the No-go is encouraged to sign a Declaration of commitment to and acceptance of the restricted actions within the No-go areas on their private erf.

16. DECLARATION OF ACCEPTANCE

I, _____ Owner of Erf _____
have read and understood the above rules and requirements relating to the Regulated Area located on my private property and commit to ensuring compliance thereof.

Signed: _____ Date: _____