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Addendum to Environmental Management Plan for Erf 438, Stanford: Regulated Areas on Private Erven

STANFORD
ECO ESTATE

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CONTENTS

1. INTRODUCTION

The development of Erf 438, Stanford, is proposed. The subject property is located within the municipal urban edge and flagged for residential development and is zoned Single Residential. The property is currently used for the cultivation and sale of roll-on lawn, with a single residential dwelling and outbuildings.

An Application for Environmental Authorisation (EA) in terms of the National Environmental Management Act (NEMA) (Act 107 of 1998) and the EIA Regulations (2014), as amended, is underway.

The following is proposed:

- → Rezoning of Erf 438 Stanford from Residential Zone 1: Single Residential to Subdivisional Area Zone in terms of Section 16(2)(a) of the Overstrand Municipality Amendment By-Law on Municipal Land Use Planning, 2020.
- → Subdivision of Erf 438 Stanford, in terms of Section 16(2)(d) of the Overstrand Municipality Amendment By-Law on Municipal Land Use Planning, 2020, into:
    - Twenty-seven (27) Residential Zone 1: Single Residential erven
    - One (1) Business Zone: Local Business (B3): Lodge
    - Two (2) Open Space Zone 2: Private Open Space (OS3) erven
    - One (1) Transport Zone 2: Road and Parking (TR2-A) erf

The Mill Stream, which runs from the Stanford Eye, through Stanford to the Klein Rivier, is located on the southwestern boundary of the site. Assessment of the site as part of the National Environmental Management Act (NEMA) Environmental Authorisation process, indicates that the site is highly impacted and in a transformed state. The site is also impacted by peripheral activities including agriculture, industrial, informal housing and urban use. It is also subjected to impacts associated with peripheral land uses, including agriculture, industrial and urban. The recent upgrade of the R43 directly alongside the property has also had a significant impact on the property. However, the site still contains sensitive natural features including the Mill Stream.

1.1. Objective of this report

The Mill Stream and associated wetlands have been delineated by the Freshwater Specialist during the Impact Assessment process. Erven 1 to 8 and Erf 10 and Erf 28 are located within the delineated 32 m buffer of the Mill Stream Unchanneled Valley Bottom (UVB) Wetland and Tributary UVB. As such, some of the proposed private erven will form part of this 32m buffer zone. Based on recommendations provided in the Environmental Assessment Process, these areas can be included in the subdivided private erf but cannot form part of the developed area of the erf. This report aims to identify these areas and outline activities which are permitted as well as the mechanism for protection into perpetuity. The areas which are marked for limited development and activities are termed the Regulated Area and are considered a strict No-Go zone during the construction phase.
The aim of maintaining the 32m buffer in a natural state is essential to the optimal ecosystem functioning and rehabilitation of the entire Mill Stream. Preventing urban creep is essential to achieving this.

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 Regulated Zones on Erf 1 to 8, and Erf 10 and Erf 28 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 Go starts 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 Mill Stream.

The properties that extend into the Regulated Area (Erf 1 -8, 10 and 28) 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 Regulated Area. Specific plot and plan designs are in place for the erven to ensure that this mitigation is enforced:


TO HERMANUS
R43 ROAD
TO GANSBAAI
MILL STREAM WETLAND
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STANFORD
ECO ESTATE
CSA
COETZEE SADIE ARCHITECTURE
STANFORD ECO ESTATE
PT 638 STANFORD
SITE PLAN
PROPOSAL
1 : 500
A1
24-02
A100

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 Regulated Area.

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. The Architectural and Design Guidelines documents for the development will also contain the details of the restricted areas on the subject erven.

2. APPLICABLE AREA

Erf 438, Stanford, 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:

- → Landscape Architect – Bernard Oberholzer
- → Town Planning – WRAP Consulting
- → Architect – CSA Architects
- → Civil Engineer – AVDM Consulting Engineers
- → Aquatic Biodiversity – Delta Ecology
- → Land Surveyor – Geomatics
- → Traffic Engineers – UDS Africa
- → Heritage, Visual, Archaeological – CTS Heritage
- → Amphibian Assessment – Whale Coast Conservation
- → Faunal Impact Assessment – prof Jan Venter
- → Terrestrial Animal Site Sensitivity Verification and Species Specialist Assessment – Jan Venter
- → Terrestrial Biodiversity Impact Assessment – Nick Helme
- → Flood Line Determination – Fourth Element Consulting

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

Figure 1. Wetlands delineated within Erf 438. The Mill Stream is indicated in blue, the Tributary to the Mill Stream indicated in orange and the Hillslope Seep is in yellow.

2.1. The Hillslope Seep Wetland (yellow)

Hydrology

- → The natural flow regime of the hillslope seep wetland has been altered as a result of onsite disturbances such as the compaction of soil, historical vegetation clearing and infilling, and catchment hardening associated with the dirt track onsite.
- → Intensive irrigation of the grass lawns during dry months increases surface water flow during these months within the wetland. Compaction of the soil within the wetland reduces infiltration rates, and promotes runoff, altering natural drainage patterns.
- → The gravel track for vehicles concentrates flow along its path and alters the wetlands natural flow regime.
- → Furthermore, the agricultural activities (lawn and vineyards) on the upslope adjacent farms to the north and northeast likely produce substantial artificially increased runoff (both irrigation and rainwater).

Vegetation

- → The majority of the hillslope seep wetland had been cleared of natural vegetation and currently is used to grow grass for sale as roll-on lawn. Some disturbance tolerant wetland species were present; however, their extent was limited.
- → No species of conservation concern were noted.

Geomorphology

- → The geomorphology of the hillslope seep wetland was largely modified by ploughing, the compaction of soil, and non-native soil has been introduced in some areas.
- → Ploughing and canalisation has resulted in disturbance to the wetland's natural geomorphic state.
- → Compaction of soil alters the natural geomorphology of the wetlands, potentially reducing natural features like depressions and altering surface flow patterns.
- → Introduction of non-native soil and compaction may lead to changes in natural sediment transport dynamics and erosion processes within the wetlands.

Water Quality

- → The water quality within the hillslope seep wetland has been disturbed because of the compaction of soil, and the introduction of non-native soil in some areas.
- → Runoff from agricultural activities in adjacent farms can introduce contaminants from fertilizers, pesticides, and other agricultural inputs into the wetlands, affecting water quality.
- → It is likely that runoff entering the wetland through the stormwater outlet in the northwest 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. The Mill Stream UVB wetland (blue)

Hydrology

- → The Mill Stream wetland lacks a defined stream channel, it is likely that the wetland receives water primarily from lateral flow originating from adjacent shallow slopes, including subsurface flow.
- → The natural flow regime of the UVB Wetland has been altered as a result of excavation upstream of the R43 road bridge, along with the R43 road bridge, both of which affect the wetland's natural water flow patterns.
- → The hydrology of the UVBW has been impacted by the surrounding catchment land use, such as the presence of the small industrial area in the wetland's immediate catchment, and the lawn grass farm. Urban land use such as industrial areas and tarred roads have resulted in flow diversion and catchment hardening which is associated with increased runoff and storm peak flows.

Vegetation

- → The Mill Stream wetland along the western edge of the site was dominated by Phragmites australis and Typha capensis reedbeds. The southeastern portion of the site was dominated by mature *Sideroxylon inerme* subsp. *inerme* (milkwood) thicket with *Olea Europaea* subsp. *africana* also present in significant numbers. *Sideroxylon inerme* subsp. *inerme* (milkwood) is a protected tree and may not be damaged or removed.

Geomorphology

→ The geomorphology of the UVB wetland was largely modified by the excavation of the depressional / dam area in the centre of the site.

Water Quality

→ The water quality within the UVB wetland has been impaired because of the Eucalyptus plants located immediately adjacent to the wetland areas. Decomposing Eucalyptus spp. leaves release oils and polyphenols that are not native to the system, influencing soil chemical characteristics and nutrient content.
→ Agricultural activities such as fertiliser and pesticide use results in contaminated runoff which enters the wetland area and degrades water quality.
→ The water quality within the wetland is likely to be impacted by the small industrial area immediately upstream of the wetland.

2.3. The Tributary UVB wetland (orange)

Hydrology

→ The tributary wetland lacks a defined stream channel, it is likely that the wetland receives water primarily from lateral flow originating from adjacent shallow slopes, including subsurface flow.
→ A small farm dam is located approximately 2 km upstream of the site and several dirt tracks run through the wetland area, resulting in altered flow regimes within the wetland.

Vegetation

→ The small tributary wetland exhibits a moderately diverse wetland community dominated by native species such as *Carex clavata, Ficinia elatior, Orphium frutescence*, and *Stenotaphrum secundatum*. The wetland has been cleared recently of alien invasive species (*Acacia saligna*) and is recovering well. However, the adjacent property is still densely invaded and poses a threat to the long-term recovery and stability of the wetland vegetation. No species of conservation concern were noted.

Geomorphology

→ The construction of dirt tracks, along with the recent clearance of invasive species may have altered the geomorphology of the wetland as removing vegetation can destabilise soil.

Water Quality

→ Agricultural activities are located within the wetland's catchment. Agricultural activities such as fertiliser and pesticide use results in contaminated runoff which likely enters the wetland area and degrades water quality.

→ Recent clearance of alien invasive species (*Acacia saligna*) from the small tributary wetland suggests an improvement in water quality, as invasive species can negatively impact water quality through processes such as nutrient uptake and alteration of habitat structure.

2.4. Wetland status on site

Although the condition of the onsite UVB wetlands was found to be moderately disturbed, the high to moderately high Ecological Importance and Sensitivity (EIS) and Wetland Ecosystem Service (WES) scores indicate that these wetlands are sensitive and important in terms of conservation planning or provision of ecosystem services. The hillslope seep wetland is significantly disturbed, and of moderate to low importance in terms of conservation planning or provision of ecosystem services and is therefore included in the development area. However, a Restricted Area, as highlighted in red in **Figure 2** below, is applicable to the two UVB wetlands:

Figure 2. Wetlands on Erf 438, Stanford. Development over the highly degraded hillslope seep wetland indicated in yellow is permitted but a 32m buffer demarcating a Regulated Area is required around the UVB wetlands indicated in blue and orange.

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:

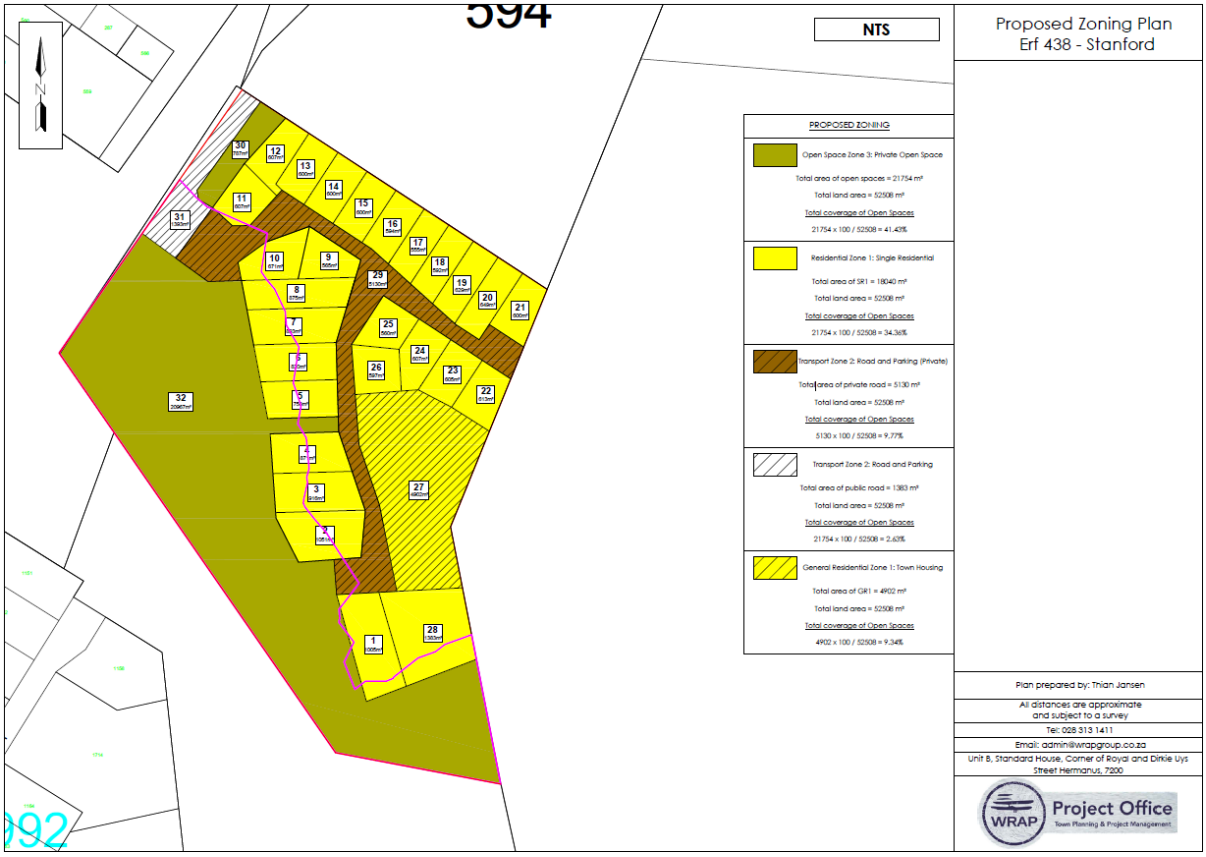

Figure 3. Development layout for Erf 438 Stanford

Erven 1 to 8, Erf 10 and Erf 28 all contain portions which fall within the 32m buffer area and therefore contain a Regulated 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 estate and identifies the erven which contain the Regulated Area:

Table 1. Development erven with Regulated Erven indicated in blue.

Erf no.	Erf Size (m^2)	Undevelopable Area (m^2) (No development zone)	Zoning
1	1005	213	Residential Zone 1: Single Residential
2	1051	569	Residential Zone 1: Single Residential
3	916	343	Residential Zone 1: Single Residential
4	817	397	Residential Zone 1: Single Residential
5	758	347	Residential Zone 1: Single Residential
6	820	407	Residential Zone 1: Single Residential
7	893	378	Residential Zone 1: Single Residential
8	875	265	Residential Zone 1: Single Residential
9	565	-	Residential Zone 1: Single Residential
10	671	186	Residential Zone 1: Single Residential
11	607	-	Residential Zone 1: Single Residential
12	607	-	Residential Zone 1: Single Residential
13	600	-	Residential Zone 1: Single Residential
14	600	-	Residential Zone 1: Single Residential
15	600	-	Residential Zone 1: Single Residential
16	594	-	Residential Zone 1: Single Residential
17	555	-	Residential Zone 1: Single Residential
18	592	-	Residential Zone 1: Single Residential
19	629	-	Residential Zone 1: Single Residential
20	649	-	Residential Zone 1: Single Residential
21	600	-	Residential Zone 1: Single Residential
22	613	-	Residential Zone 1: Single Residential
23	605	-	Residential Zone 1: Single Residential
24	607	-	Residential Zone 1: Single Residential
25	560	-	Residential Zone 1: Single Residential
26	597	-	Residential Zone 1: Single Residential
27	4902	-	Business Zone 3: Local Business (B3): Lodge
28	1383	474	Residential Zone 1: Single Residential - Guesthouse
29	5257	-	Transport Zone 2: Road and Parking (A) (Private)

30	1930	-	Open Space Zone 3: Private Open Space
31	20353	-	Open Space Zone 3: Private Open Space
TOTAL	**52335**	**3579**	

Table 2. Erven containing Regulated Areas and size information

Erf no.	Erf Size (m^2)	Developable area (m^2)	Undevelopable Area (m^2) (No development zone)	Zoning
1	1005	792	213	Residential Zone 1: Single Residential
2	1051	482	569	Residential Zone 1: Single Residential
3	916	573	343	Residential Zone 1: Single Residential
4	817	420	397	Residential Zone 1: Single Residential
5	758	411	347	Residential Zone 1: Single Residential
6	820	413	407	Residential Zone 1: Single Residential
7	893	515	378	Residential Zone 1: Single Residential
8	875	610	265	Residential Zone 1: Single Residential
10	671	485	186	Residential Zone 1: Single Residential
28	1383	792	474	Residential Zone 1: Single Residential

Specific plot and plans have been developed for each erven and the new owner will buy into this concept and the relevant site restriction. Each design shows the footprint of the house and developable area as well as the area which is in the No Go area and not developable.


MILL STREAM WETLAND
FLOATING DECK
PROPERTY BOUNDARY
NATURE TRAIL
GRASS SWALE
RETENTION POND
MILKWOOD
MILKWOOD TREES
(37m²)
(186m²)
(255m²)
(378m²)
(407m²)
(347m²)
(397m²)
(343m²)
(569m²)
671m² (485m²)
565m²
875m² (610m²)
893m² (515m²)
820m² (413m²)
756m² (411m²)
817m² (420m²)
916m² (573m²)
1051m² (482m²)
555m²
592m²
560m²
607m²
597m²
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3.1. Definition of the Regulated Area

During the Construction Phase of the estate including civil installations and development of individual residential dwellings, the 32m buffer area as delineated by the Freshwater Specialist and indicated above, is considered a strict ***No Go area*** and defined as such.

During the Operational Phase of the estate, where homeowners occupy their homes, the 32m buffer zone as delineated by the Freshwater Specialist and indicated above, is termed the ***Regulated Area*** with only pre-approved permissible activities being permitted in this area.

4. CONSTRUCTION ACTIVITIES

In terms of the Construction Phase of development, the entire 32m buffer area 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 area and the reasons for it.

2. Avoid encroachment into the delineated Unchanneled Valley Bottom Wetlands (UVBWs) (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 32m buffer, as well as the sensitive fauna on site including the Western Leopard toad. 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. An appropriate road reserve should be implemented for internal access roads within the estate to facilitate the movement of toads.

7. Boundary walls and fences should be permeable to toads. Integrate toad holes of at least 100 mm diameter, spaced every 20 meters, and not exceeding 300 mm in length at ground level. Alternatively open gutters can be a suitable option.

8. Stormwater systems should be designed with suitably spaced escape areas, allowing toads to escape. These escape areas should be positioned at intervals of at least 50 m.

9. 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.

10. To prevent road mortalities, Western Leopard Toad signage must be erected and a speed limit within the eco estate should be implemented and strictly adhered to.

11. Natural vegetation should be planted in private gardens to create ideal toad habitat.

12. 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.

13. 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 32 m 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.

14. 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.

15. Construction workers / employees should be notified of the importance of this species to ensure that no toads are killed and that the UVBWs remain as No-go areas.

5. OPERATIONAL ACTIVITIES

The properties that extend into the Regulated Area (Erf 1 -8, 10 and 28) 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 Regulated Zone. This non-developable exclusive use portion 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 the 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 Regulated Zones on Erf 1 to 8, Erf 10 and Erf 28 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 Mill Stream.

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 Regulated Areas

The actions listed below are considered mandatory:

1. No encroachment of built infrastructure and artificial landscaping is permitted within the 32m Regulated Area, 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 Area.

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. Allowance must be made in the design phase, for stormwater to be treated in a vegetated detention ponds and/or a substantial vegetated swale before release into the UVBWs. The design of these must be done in line with specialist input and the long-term maintenance and operations of these must be including the operational maintenance schedule of the estate.

5. No abstraction, deviation, diversion or ponding of the Mill Stream is permitted, unless it has been approved in terms of the licensing requirements as outlined in the National Water Act (NWA) (Act 36 of 1998). No boreholes or wells may be installed or used.

6. 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.

7. All indigenous trees must be retained.

8. Boundary walls and fences: The erection of boundary walls and fences within the demarcated buffer zone (Regulated Area) 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 32m Regulated Area. No 'Vibracrete' or pre-cast walls are permitted anywhere on site. 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, the Stream and between erven. 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

9. No curbs are permitted anywhere in the estate, only dish channels or swales are acceptable. The presence of steep curb stones acts as an impermeable barrier, trapping the toads and heightening the risk of mortality from cars. Moreover, the curb stones can act as a channel to stormwater drains which act as a one-way trap for toads generally resulting in death for the toads.

10. Pools – Swimming pools and ponds in the entire estate must be natural pools and not chlorinated. Pools and ponds must have a means of escape for a frog. There are various ways this can be achieved using rock piles, frog ladders and toad savers or using "walk-in" pool designs. Garden ponds should be avoided due to the noise impact of frogs during breeding season, when they are considered a nuisance. Pools cannot be located within the Regulated Area.

11. Activities which may result in compaction, must be avoided.

12. Regular reed cutting should take place. Cutting reeds improves the water quality; pruned reeds absorb excess nitrates and phosphates from the water as they regrow. Reed cutting should only occur in the hot and dry months from December to May. Reeds or reed rhizomes should not be removed as reeds are highly efficient at reducing water pollution. However, they should be regularly cut during the dry season, preferably when the water volume is at its lowest at the end of autumn. An early December cut and a repeat cut in May is recommended. All cut material must be removed immediately .

13. No pesticides of any kind are permitted.

14. Pets should not be allowed unlimited access to this area.

15. Ensure that runoff / SW generated onsite flows into the wetland areas through an appropriately designed broad, vegetated earth swale.

16. Planted berms along the R43 and a 32m buffer along the Mill Stream is essential. The swale as suggested by Van Zyl and Morton (Pg 25 of Freshwater Impact Assessment and point 15 above) is also required. This area should be planted with arum lilies to encourage the return of Arum Lily Frogs. Arum Lilies are also efficient filter plants for enriched water and anecdotal reports by long-standing residents refer to a profusion of arum lily plants in the Mill Stream catchment.

17. 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. An 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.

6. LIMITED PERMITTED ACTIVITIES

Only limited activities and infrastructure are permitted within the Regulated 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 Mill Stream and its associated wetlands. Only indigenous gardens are permitted which reflect the natural Mill Stream environment. Raised boardwalks, benches, bird hides and stormwater polishing and retention is permitted subject to approval by the ECO and Site Manager. Fencing and boundary walls are restricted as discussed above.

7. DEMARCATION OF THE REGULATED AREA DURING OPERATION

It is important that property owners and users of the site are aware of where the Regulated Areas 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 Regulated Areas, rules of these areas, access to these areas and the extent. The Regulated Areas are not considered open for all, and carefully designed boardwalks and paths on the public space outside the private regulated areas can be used to guide access away from private sites.

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 1: 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 Regulated 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
- → Regulated Areas and No Go zones must be indicated

- → All construction personnel must receive environmental awareness training regarding
- → amphibian species present on site, including the Western Leopard Toad.
- → Training should emphasize the risks of amphibian entrapment in trenches, pipes, and foundation works. Trench inspections must be conducted daily, and amphibians removed safely by a trained ECO (Environmental Control Officer).
- → Appoint an ECO with amphibian expertise to monitor implementation of all mitigation measures.
- → The ECO must be present during key earthworks within 50 m of any delineated wetland or amphibian corridor.
- → Strictly avoid encroachment into the 32 m buffer zone around delineated wetlands, especially the Mill Stream and tributary Unchanneled Valley-Bottom wetlands (UVBW) (see van Zyl (2024)).
- → Temporary fencing should demarcate and protect all no-go zones.

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 Regulated Area. 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:	*Brief description of work to be undertaken*	
Frequency / duration:	*How often will the works be required*	
Commencement date:	*When*	
Location on site:	*Where*	
Required materials, machinery, and equipment:	*What*	
Details of how actions will be carried out:	*Detailed description of the activities, step by step detail, methods*	
Storage of materials:	*Description of materials required and how and where they will be stored*	
Storage and disposal of waste:	*Description of materials required and how and where they will be stored*	
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 regulated 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 438, a site specific MMP was developed. It is important that owners with properties which extend into the Regulated Area are aware that activities within the 32m water course area, 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 water uses:
- Section 21(c) impeding or diverting the flow of water in a watercourse;
- Section 21 (i) altering the bed, banks. course or characteristics of a watercourse.

Typical maintenance and management actions within the Regulated Area will include:

→ General site maintenance, repair and upkeep of infrastructure within the Regulated 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 as required

→ Rehabilitation and restoration for improved ecological functioning

The Homeowners in the Regulated Area must refer to the MMP 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 Regulated 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 Regulated 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 / Regulated Areas 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 area and Regulated Area on Erf 438 Stanford. 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 Regulated Area is encouraged to sign a Declaration of commitment to and acceptance of the restricted actions within the Regulated area 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: _____