EXECUTIVE SUMMARY OF THE BASIC ASSESSMENT REPORT: PROPOSED DEVELOPMENT OF 19 RESIDENTIAL UNITS ON ERF 511, OTTERY, CAPE TOWN, WESTERN CAPE.

INTRODUCTION

The proposed development entails the establishment of 19 residential units on Erf 511, Wetton, Cape Town. The property is situated between the Old Strandfontein (west) and New Strandfontein Road (east) and is accessed via Bloemhof Avenue.

A wetland is located in the centre of the proposed development site. Stormwater from the properties located north of Erf 511 enters the site and flows through a channel towards the eastern boundary of Erf 511. The loss of the wetland on site will be offset by constructing an artificial wetland/ stormwater pond in the eastern corner of the site. The wetland will form part of the stormwater management for the area and contribute to fulfilling the ecological functions of the lost wetland area.

SITE DESCRIPTION

The applicant proposes to develop a residential development on Erf 511, Wetton, Cape Town. The proposed site is approximately 4362m^2 in extent. Please refer to **Figure 1** and **Appendix A1** to view the locality of the site.

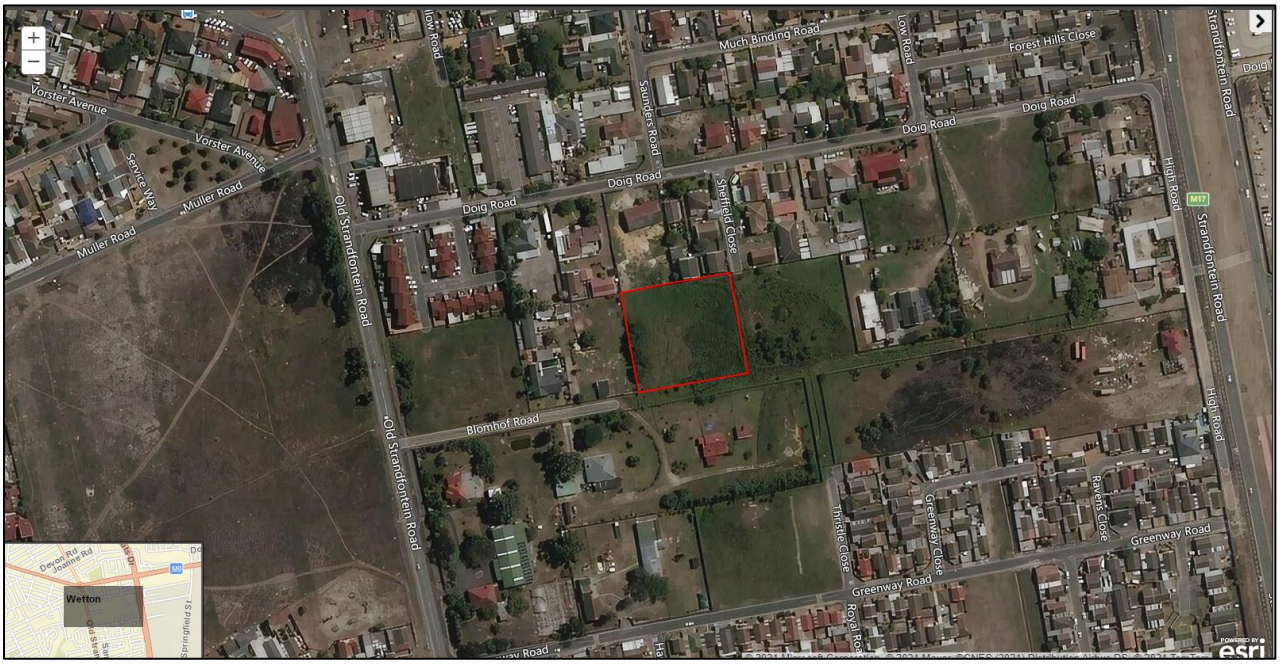

Figure 1:Location of Erf 511, Wetton, Cape Town (Source: Cape Farm Mapper, 2021).

SUMMARY OF THE PROPOSED DEVELOPMENT

In summary, the following is proposed:

- 19 residential units of approximately 80m^2 each.
- An open space/ stormwater management area of 1080m^2
- Refuse room of 18m^2

Water Reticulation

A 100mm ø watermain is located on the western verge on Old Strandfontein Road with a 50mm ø leading off this main into Blomhof Avenue, it is proposed that the 50mm ø line be replaced with at least a 100mm ø to service the proposed development of ERF 511.

Sewer Reticulation

There are two (2) sewer connection points, in Old Strandfontein Road and Thistle Road, however the cover levels of these existing manholes, are higher than the average height of Erf 511. To provide adequate sewer drainage the ERF needs to be filled to a maximum ±0.5m along the northern boundary to ±1.0m along the southern boundary. Retaining structures are required along the northern and western boundaries.

Site Access

Access to the proposed residential development will be off Bloemhof Avenue approximately 175m from the Old Strandfontein Road / Bloemhof Avenue intersection. The proposed access will require a two-lane cross section i.e., one lane in and one lane out, with a combined carriageway crossing approximately 5.5m wide.

The access intersection on the development access side will be stop controlled. The position and spacing of the access are illustrated below.

Figure 2: Proposed site access from the existing Old Strandfontein Road (Source: Traffic Impact Statement, 2021).

Please refer to Appendix E16.2 for confirmation of service capacity by the CoCT.

LEGISLATIVE CONTEXT

The proposed residential development will tigger the following listed activities, which is listed in terms of 2014 EIA Regulations, as amended, published under the National Environmental Management Act, Act No. 107 of 1998 (NEMA), and therefore requires an application for Environmental Authorisation:

Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Listing Notice 1**	Describe the portion of the proposed development to which the applicable listed activity relates.
Activity 19	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse.	The wetland on site will require infilling.
Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Listing Notice 3**	Describe the portion of the proposed development to which the applicable listed activity relates.
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. Within the Western Cape: Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004.	The vegetation type of the area is classified as Cape Flats Sand Fynbos, which is listed as critically endangered ecosystem. However, as per Appendix G2.2., the Botanical Specialist concluded that Activity 12 **will not** be triggered as the site does not contain 'indigenous vegetation' and vegetation present on site is not characteristic of the Cape Flats Sand Fynbos vegetation type. Please refer to Appendix G2.2 for more information.

PLANNING CONTEXT

A land use application was submitted to rezone the property to General Residential 2. The following permanent departure applications were made as well:

- Permanent Departure from 35 (b) in terms of Item 42 (b) of the Development management Scheme.
- To permit a Permanent Departure from 35 (e) in terms of Item 42 (b) of the Development management Scheme.
- To permit a Permanent Departure from 140 2 (c) of the (DMS) in terms of Item 42 (b) of the Development management Scheme.

The Site Development Plan also requires approval.

SPECIALIST ASSESSMENTS

Freshwater Assessment:

The main findings and recommendation from the Freshwater Impact Assessment (**Appendix G1**) were as follows:

Main Findings

- There is an isolated sand fynbos depression wetland on the erf. This wetland is considered to be largely modified and of low ecological sensitivity and importance.
- The wetland attenuates flooding and captures sediment, phosphates, nitrates and toxicants to a moderate extent.
- In order to maintain the ecosystem services provided by the wetland area as well as offset the loss of wetland habitat in the proposed development, an open area for storm water attenuation that will incorporate wetland features is proposed.
- The extent of the existing wetland is approximately 1040m^2.
- Although the loss of the wetland will not be completely offset, the loss in habitat is not deemed a significant impact due to the existing wetland's modified state and low ecological importance. The supply of ecosystem services of the wetland will however not be reduced by the reduction in the wetland size.
- The natural vegetation which is thought to have once occurred in the study area is mapped as Cape Flats Sand Fynbos. This vegetation type is mapped as critically endangered. None of this vegetation type is still intact within the study area. Only a mix of grasses (invasive alien kikuyu grass in the drier areas and indigenous kweek grass in the wetter areas) occur with rushes and sedges (*Typha capensis* bulrushes in the permanently inundated areas and *Pycreus polystachyos* sedges in the seasonally inundated areas) in the wetland areas.
- Storm water enters the site from its northern boundary and flows diagonally across the north-eastern corner of the site to exit on the property's eastern boundary. The channel is dominated by bulrushes (*Typha capensis*) that indicate permanent to near-permanent inundation that is usually associated with storm water runoff in urban areas.
- The fringes of the bulrushes consist of slightly drier areas. These wetland fringes were dominated by *Cynodon dactylon* grassland with clumps of the sedge, *Pycreus polystachyos*, and arum lilies (*Zantedeschia aethiopica*). The rest of the site was dominated by invasive alien kikuyu grass (*Pennisetum clandestinum*) and some alien dock (*Rumex usambarensis*).
- A drain/ storm water channel occurs along the erf's southern boundary. The channel appears to have been excavated in order to drain water off the site. Larger wetland habitat occurs on Erf 509 todrain/ storm water channel occurs along the erf's southern boundary. The channel appears to have been excavated in order to drain water off the site. Larger wetland habitat occurs on Erf 509 to
- The endangered Western Leopard Toad (*Bufo pantheris*), Clicking Stream Frog (*Strongylopus grayii*), Arum Lily Frog (*Hyperolius horstockii)* and Common Platanna (*Xenopus laevis*) are known to occur in the area.
- The final layout will result in some infilling of mapped wetland habitat within the site but allows for more than 1000 m^2 of open space for the recreation of wetland habitat as well as rehabilitation of the remainder of wetland habitat that is associated with the stormwater channel that passes through the site. Please refer to Appendices G1.2 and G1.3 for addendums to the Freshwater Report.

- The wetland that will be created within the site will thus be of the same or greater extent, will have improved ecological condition and will still be associated with the stormwater channel that feeds water onto the site and then connects with the wetland habitat on the adjacent property.
- An improvement in wetland habitat and functionality can thus be expected. For this reason, it can also be expected that the potential freshwater impact will be less than that originally assessed for the development layout considered in the October 2016 report.

Recommendations

- Kikuyu grass (*P. clandestinum*) should be kept out of the wetland area and associated open space. The newly designed wetland should contain both permanently inundated areas such as the channel and pond as well as a wider seasonal wetland which should vegetated with appropriate wetland species such as, *Psoralea pinnata, Wachendorphia paniculata, Juncus capensis, Pycreus polystachyos, Schoenoplectus scirpoides, Zantedeschia aethiopica* and *Cynodon dactylon*. The seasonal wetland should aid with the attenuation of larger storm flows. The wider seasonal wetland should be managed as a wetland area and not mowed to establish a lawn as this will facilitate the dominance of *P. clandestinum*.
- Construction should take place in drier summer seasons as this will reduce runoff from the site during construction activities. Prevention of any contaminated arising from the construction activities from impacting on the aquatic features should be managed in terms of the Environmental Management Plan for the Project. The construction should take place in the drier summer seasons as this will reduce the runoff from the construction site into the adjacent wetland areas. The wetland area should be designed to mitigate the water quality impacts arising from the site.
- A pond should be created within the wetland habitat. This will allow for adequate retention time on site to allow settling of sediment and removal of nutrients and contaminants (if present).
- The mitigation of the impacts of the storm water arising from the proposed developed area should be mitigated through onsite storm water management. The increased intensity of the runoff from the site that would result from the hardening of surfaces within the site should be mitigated by encouraging infiltration where possible within the developed site. The runoff from the site should be attenuated to reduce the risk of flooding of the downstream areas.

Botanical Compliance Statement:

The main conclusions and recommendations of the Botanical Evaluation (Appendix G2) were as follows:

- Due to its transformed habitat along with existing negative influence and lack of positive appropriate vegetation drivers the study area is deemed to be of a 'low sensitivity' for terrestrial plant species.
- The proposed development will therefore not have any impact on terrestrial plant SCC.
- No specific mitigation measures are suggested in terms of managing terrestrial plant species loss.
- The site must be kept clear of NEMBA listed invasive alien plant species as per the regulations.
- Recommendations prescribed in Section 12 of the October 2016 Freshwater Assessment for the Proposed Development of Erf 511, Wetton in Cape Town by Ms Toni Belcher and Mr Stuart Barrow of BlueScience relating largely to the management of water are further endorsed. Please refer to Appendices G1.2 and G1.3 for addendums to the original Freshwater Report.
- As per the Specialist's response to comments raised on the Pre-Application DBAR, Activity 12 of Listing Notice 3 will not trigger as vegetation present on site is not considered indigenous (i.e., is not characteristic of the vegetation type) and the site is not characteristic of the relative vegetation type. Please refer to Appendix G2.2 for more information.

Animal Species Compliance Statement:

The main findings and recommendation from the Animal Species Compliance Statement (**Appendix G3**) were as follows:

Main Findings

- Although the project area is considered to be heavily transformed and very little, if any, indigenous vegetation remains, various amphibian species are evidently utilising the remaining habitat in the project area and certain species appear to be present in high densities.
- No amphibian SCC, or evidence of such, were recorded in the project area or in the adjacent wetland (Erf 509) during the field survey undertaken in early June 2021.
- The following amphibian and reptile species were recorded in the project area during the June 2021 survey: Cape River Frog (*Amietia fuscigula),* Clicking Stream Frog (*Strongylopus gryii*) and the Cape Dwarf Chameleon (*Btsfypodion pumilum*).
- The Clicking Stream Frogs were found in abundance across the project area and could be heard calling throughout the day. Four (4) adult Cape Dwarf Chameleons were recorded in different locations across the project area. No tadpoles were recorded in any of the water bodies present in the project area.
- There was no evidence of amphibian SCC occurring in the project area (Erf 511), and due to the poor environmental condition of the site and extensive impacts, it is not anticipated that any such species occur. However, due to the cryptic nature of amphibians, the single season survey, the seasonal timing of the survey and historic records of amphibian SCC in the wider project area, it is plausible that such species may nonetheless be present and/or may utilise the site for brief periods during the year.
- Micro Frog (*Microbatrachella capensis*): this species of frog was originally only known from one location near Kenilworth racecourse (which is approximately 2.8 km's from the project area).

- This species requires undisturbed, seasonal seepage pools and vleis in natural or near-natural fynbos. None of these conditions are present within the project area and based on previous surveys (Appendix G1) the pools present on site are perennial and therefore not conducive to providing habitat for *Microbatrachella capensis*.
- This species begins breeding during May, and as such the field survey was conducted at the ideal time to encounter this species should it have occurred in the project area.
- Furthermore, this diminutive species of frog is considered incapable of migrating from surrounding areas where it occurs (such as the Kenilworth racecourse) to the project area due to extensive anthropogenic barriers.
- It is therefore considered 'very unlikely' that this species exists in the project area, nor would it utilize the site in the foreseeable future.
- Cape Platanna (*Xenopus gilli*): this species is almost exclusively aquatic and inhabits permanent and seasonal blackwater sponges and lakelets in low-lying coastal areas, usually within 10 kms of the coastline.
- The project area is located approximately 9.8 kms from the nearest coastline.
- This species is entirely aquatic and is only capable of moving relatively short distances during heavy rainfall periods. This species is known to occur in the Zeekoei Vlei which falls in the same catchment as the project area (the Zeekoei/Lotus River & Zeekoei Vlei System), but it is considered unlikely that this species could migrate from these systems to the project area given the anthropogenic barriers that exist.
- *Xenopus gilli* does not typically occur in habitats that have that have been disturbed by agriculture or urban development, or that contain invasive plants and animals.

- Based on the above, and the results of the field survey, it is considered 'very unlikely' that this species is, or could be, present in the project area.

- Western Leopard Toad (*Sclerophrys pantherina*): this large toad inhabits pans, vleis and dams in and around the Cape Peninsula and the Cape Flats.

- Unlike the Micro Frog and Cape Platanna, the Western Leopard Toad is not restricted to pristine natural habitats and often colonises dams in farmlands and suburbs where breeding sites exist.
- Although *Sclerophrys pantherina* spends most of its time away from water, it is typically still found in the general vicinity of wetland habitats.
- This species typically breeds in relatively large, permanent, water bodies that have standing open water which is greater than 50cm deep with scattered patches of aquatic vegetation
- There is almost no suitable breeding habitat in the project area for this species, besides a very small patch of open water in the north-eastern corner. However, it is unlikely that this small water body truly meets the breeding requirements for this species.
- Based on the above, the likelihood of occurrence of this species in the project area, permanently or seasonally, is considered to be low or 'unlikely'.
- Based on the results of the field survey, the project area has been heavily transformed due to extensive anthropogenic impacts as well as the impact of alien invasive plant species and has been assigned a low sensitivity and does not represent the "high" relative animal species theme sensitivity (as it relates to amphibian SCC) as per the screening tool.
- Furthermore, there appears to be very little, if any, remnants of the Cape Flats Sand Fynbos vegetation type which is thought to have occurred in the project area historically and on which certain amphibian SCC would rely.

Recommendations

- The proposed development will affect a small portion of the central wetland in the project area. The impact of the original proposed development on this wetland has already been significantly reduced due to changes in the layout of the development. These changes, and various mitigation measures, are detailed in the February 2020 Addendum to the Freshwater Assessment. Amphibian-specific recommendations are provided below. It is critically important that these be read in conjunction with the recommendations and mitigation measures as described in the Freshwater Assessment (2016) and the Freshwater Assessment Addendum (2020).
- Environmental Control Officer (ECO) should be present during initial site clearing activities, in the unlikely event that any amphibian SCC are encountered. Any other amphibians that are encountered can be relocated to the wetland in the north-eastern corner of the project area or the wetland on Erf 509.
- The portion of the wetland in project area, which is to remain undeveloped, should be cordoned off during construction to prevent further anthropogenic impacts to the system.
- All stormwater drains should be covered by a mesh cover with a diameter of less than 3 cms in order to prevent frogs from falling into these drains.
- If a new wall is to be constructed on the eastern boundary of the project area, it should be constructed in such a way as to be as 'frog-friendly' as possible. Ideally the fence / wall should be made of palisade fencing. If this is not possible, then rectangular holes of approximately 10 cm (high) by 15 cm (length) should be made at ground level in the wall / fence, in order to facilitate the movement of amphibians to the adjacent wetland.
- All alien invasive plant species should be removed from the project area and the wetland during the wetland rehabilitation process, in accordance with advice from a horticulturist rehabilitation expert.

Such rehabilitation should ideally be conducted from January to June, to avoid the primary breeding season of most amphibian species.

- Indigenous plant species (and preferably locally indigenous plant species) should be used for all landscaping.
- The use of poisons, such as pesticides, should be avoided as far as possible.
- A nocturnal search and rescue mission should be conducted in order to capture and relocate any Cape Dwarf Chameleons in the project area. This should be done before construction begins. It is recommended that these animals be relocated to suitable habitat in the adjacent wetland on Erf 509.
- Ensure that no structures are built, during and after construction that could act as potential pit-fall traps for amphibian species. Any trenches that are necessary during construction should be checked every morning for the presence of amphibians.
- Ensure that no pollutants enter the stormwater system or the wetland areas.

Geotechnical Assessment:

The main conclusions and recommendations of the Geotechnical Assessment (Appendix G4) were as follows:

- The fill comprises fine sandy clayey silt and extends to a depth of approximately 0,80 m below ground level (bgl). A clayey sandy fill layer underlies the surface fill, extending to a depth of approximately 1,30 m. This layer comprises fine to medium grained sand and clayey sand with isolated amounts of builder's waste.
- Medium grained sands and clayey sands, likely that of transported origin, underlie the fill layers and extend to a depth in excess of 2,30 m bgl.
- Laboratory test results indicate that the fine-grained fill soils at surface are moderately plastic and will not be suitable for use in construction.
- With increasing depth medium grained transported sands are encountered. These sands are expected to exhibit moderate to good compaction characteristics and will be suitable for use in construction, if dry.
- Transported sands that are above optimum moisture content may need to be stabilised with cement in order to improve workability and final CBR strength. Soils are not active or problematic with regards to heave.
- Fill material presently at surface is variable with regards to consistency and composition. These soils will not be suitable for use below load-bearing foundations and floors. Any fill material containing rubble or waste materials, if encountered, is unsuitable for use in construction or for founding purposes.
- Transported sands are generally medium dense and slightly variable with regards to consistency. These soils can be described as moderately compressible and will be suitable for load-bearing structures provided bearing pressures are suitably limited. Strip foundations should still be strengthened with steel reinforcement in order to span potential soft spots that may be present.
- Founding recommendations must be reassessed following a secondary site inspection. A secondary site inspection will also allow for other foundation recommendations to be made once additional information regarding site conditions is known. The following fouling recommendations have been given:

- Strip foundations in medium dense sands:
- Settlement is based on foundations founded through any uncontrolled fill and within the medium dense sands near surface. Trenches can be nominally compacted with a trench compactor, if dry, and cement (stabilisation) could be added to improve compaction.

- Strip foundations in recompacted soil mattress:

- Excavate across the entire building footprint to 1,00- 1,50 m below final ground level, to get through any uncontrolled fill and stripping fill to spoil. Compact the base of the excavation, using cement stabilisation in wet conditions and to increase CBR were required. Import granular material of G7 quality and compact in layers up to founding level.

- Reinforced concrete raft:
- From ground level, remove unsuitable fill, compact the underlying soils. Imported granular material and compact to final founding layer.

- In addition to foundation options above, one should consider the marshy conditions. One will likely need to formalise and create extensive site drainage.
- Another alternative would be to raise elevation levels across the site using engineered fill terraces. In this case one would either need to:

- Create the terrace (at least 1,00 m high) above the existing ground level using suitable quality and compacted material and then found using rafts, or;
- Remove and replace the fill with suitable material and then create terraces. One can then consider strip footings.

- Allowable bearing pressures and spread foundations should be limited to those given in Table 4.1, due to limited information available on the deeper soil profile. Larger foundations could potentially be considered but have a greater depth of influence and are not recommended without additional testing into the nature and compressibility of the deeper soil profile.
- Foundations should be stiffened to accommodate potential soft spots and resulting differential movements.
- Compaction can be done using a heavy vibrator roller and one should consider the effect of a roller on nearby properties. Any compaction for load-bearing foundations should be compacted to at least 95 % MOD AASHTO.
- Clayey and silty fill material encountered at surface will not be suitable for use in construction at all. It is possible that this material is only encountered in a small area on-site and will need to be confirmed with additional field testing. This material will need to be stripped to spoil to make use of transported soils underlying it and may require the importing of suitable quality granular material.

- The fine to medium grained transported sand and clayey sand is generally medium dense in-situ and is expected to achieve fair to good CBR when recompacted. Soils at various depths might be moist to wet and cement could be added to increase compaction.
- In areas where the fine clayey soils are not encountered at surface, it is expected that in-situ and undisturbed sands will be suitable for use below floors and as a fair to moderate quality subgrade for road and paving areas for light traffic. Cement can be added to increase recompaction strength, if required.
- For roads and parking areas, material for sub-base and base course will need to be imported. Allowance will also need to be made to remove unsuitable fine grained soils as well as fill and to import a suitable quality subgrade material.
- Extensive road drainage will be required unless elevation levels are raised.
- Water inflow into excavations is expected to be moderate to strong and should be manageable with sump pumps to some extent. The need for dewatering wells or other more sophisticated dewatering techniques is best assessed and determined during excavation.
- The supplied stormwater management form indicates the use of permeable pavers. Permeable pavers will likely not be practical when considering the clayey soils encountered at surface, and impermeable

pavers with good drainage is suggested. However, as indicated before, it is likely that this clayey layer is not encountered across the entire site and, thus, permeable pavers may be suitable in other areas. Additional test pits are required to confirm this. Extensive site surface and subsurface drainage will likely be required.

- No particular excavation difficulties are anticipated within the fill and transported material. However, a digger-loader (TLB) has limited moveability due to the present waterlogged conditions on-site. Therefore, a tracked excavator is suggested. Excavations deeper than 1,50 m (but not in excess of 2,00 m deep) will need to be battered to at least 40° to the horizontal, for safety purposes.
- Excavation to within at least 2,30 m bgl classifies as "soft excavation" in terms of the SANS 1200 D (COLTO 1998) Earthworks Specification. In practice, these materials can probably be excavated and worked using conventional earthmoving equipment. Excavation by hand is also relatively easy within 1,00 m bgl.
- Slumping may occur in wet areas or where the shallow water table is present. Excavations here will need to be battered to at least 30° to the horizontal. In addition, sandbagging may also be used to limit excessive slumping. This is best assessed on-site during construction.
- Sidewall collapse was experienced, essentially due to wet conditions. Trenches are expected to be marginally stable up to 1,00 - 1,50 m deep during dry conditions. It is likely that sidewall collapse will occur in excavations deeper than 1,00 - 1,50 m. Normal safety precautions should be taken in this regard, especially relating to personnel working in trench excavations deeper than 1,50 m or below the groundwater level. As mentioned above, excavations deeper than 1,50 m (but not in excess of 2,00 m deep) will need to be battered to at least 40° to the horizontal, for safety purposes.

PUBLIC PARTICIPATION

A key component of the Basic Assessment process is public participation. Public participation allows identified Interested and Affected Parties (I&AP's) to assist in identifying issues or concerns around the activity which may need further investigation or assessment.

The Pre-application Draft Basic Assessment Report was made available for a 30-day public and Authority consultation phase. Proof of PPP is attached as **Appendix F** to the BA report. To date, the following PP has been undertaken:

- A newspaper advertisement was published in Peoples Post Constantia and Wynberg (17th August 2021).
- A Site Notice will be placed at the entrance to the existing site.
- Adjacent landowners were provided with notification letters.
- An executive summary was uploaded to SEC website as a data saving alternative.
- Electronic copies of the Pre-application Draft BAR Report and EMP were emailed in electronic format (via Dropbox) to Key Commenting Authorities
- A Notification email was sent to all the I &APs informing them about the availability of the Pre-application Draft BAR.
- The Pre-application Draft BAR was uploaded to SEC website.

The Post-Application Draft BAR will be made available for a 30-day comment period.

- All Registered I&APs will be notified of the availability of the Post-Application DBAR for comment.
- An executive summary will be uploaded to SEC website as a data saving alternative.
- Electronic copies of the Post-Application Draft BAR Report and EMP will be emailed in electronic format (via Dropbox) to Key Commenting Authorities
- The Post-Application Draft BAR will be uploaded to SEC website.

ALTERNATIVE INVESTIGATIONS

The NEMA EIA Regulations, 2014, as amended, require that an Applicant identify and investigate alternative "means of meeting the general purposes and requirements of the activity" for which authorisation is being applied for.

Site Alternatives

No site alternative was investigated as the property is owned by the applicant. The property is in a degraded state and holds no significant conservation value. It is therefore not feasible to consider other development sites, as the selected site is in line with the SDF and IDP of the City of Cape Town. The development of the selected site will ultimately have a positive impact on the area and the environment.

Activity Alternatives

The proposed development entails the development of a residential area, an application will be submitted to rezone the erf from Community Zone 1 to General Residential 2, to be within the land use rights and align with the SPF and IDP of the Municipality. No other activity alternatives were considered, as Erf 511 is only 4363 m^2 in extent and as such offers limited financially feasible activity alternatives.

Layout Alternatives

Two alternatives were considered for the proposed residential development, **Alternative A** (Preferred alternative; **Appendix B1**) and **Alternative B** (**Appendix B2**).

Alternative A (preferred alternative) layout was based on the recommendations given by the freshwater specialist, to reduce impacts to the freshwater/aquatic features on site. As such, alternative A entails the location of the residential units to be located alongside the southern and western boundaries of Erf 511, as well as a reduction of the in the number of residential units initially proposed (19 units as to 20 units).

The positioning of the residential units will reduce the impacts to the aquatic features on site and will allow connectivity between the proposed aquatic features on site and the existing aquatic features on the adjacent erf (east).

Alternative B (**Appendix B2**) would have consisted of 20 residential units, the residential units would have been located alongside the north, east, south and western boundaries of the site. As such, a larger section of the open space and wetland area would have been impacted.

No-Go Alternative

The No-Go option entails that the development will not take place. There is already and illegal occupier residing on the site, by not development the site, illegal occupation of the site may increase. This will result in a financial burden to the applicant as well as negatively impact the densification of the site.

The No-Go option will also result in the site retaining a low to no conservation value. By developing the site, removing the alien invasive species that currently covers the site and landscaping the open areas with indigenous vegetation, the habitat quality for animal species will improve.

IDENTIFICATION AND ASSESSMENT OF IMPACTS

Due to the disturbed nature of the site, the botanical impact was assessed by the botanist to be very low. No cultural or heritage impacts have been identified. The most significant impacts associated with the proposed development are the freshwater and terrestrial biodiversity impacts during the construction and operational phases, due to the close proximity of the freshwater resources and the stormwater flow across the site that ends up in the freshwater environment. The freshwater specialist has however assessed the impact to the freshwater resources to be low (after mitigation).

A summary of the assessed significance[1] of the identified impacts (after mitigation is successfully implemented) is provided in the tables below:

CONSTRUCTION PHASE IMPACTS			
IMPACT	IMPACT SIGNIFICANCE (after mitigation)		
	Alternative A: Preferred Layout	Alternative B	Alternative B: No-Go Alternative
Botanical Impact: Invasive plant species will be removed to clear the site for development.	Low (-)	Low (-)	No Impact
Freshwater Impact: The wetland on site will be infilled, a new stormwater pond/ artificial wetland is proposed in the northeastern corner of the site	Low (-)	Low (-)	No Impact
Soil & Groundwater Contamination & Pollution: Associated with poor waste management activities, fuel spills and cement batching.	Low (-)	Low (-)	No Impact
Dust & Noise Impacts: Associated with construction machinery and traffic and dust during construction activities.	Low (-)	Low (-)	No Impact
Traffic, Safety & Access Impact: Associated with delivery of construction materials and vehicles entering and leaving the site.	Low (-)	Low (-)	No Impact
Visual Impact: Associated with poor housekeeping during construction activities.	Low (-)	Low (-)	No Impact
Socio-economic Impact: Creation of temporary jobs during the construction phase.	Low (+)	Low (+)	Low (-)
Terrestrial Biodiversity Impact: Sections of the wetland will require infilling, the wetland area inhabited by various animal species (predominantly reptilian and amphibian), as such, the proposed development will result in a reduction in habitat.	Low (-)	Low (-)	
Geohydrological Impacts: Associated with site preparation to allow for the construction of the houses within a wetland area.	Low (-)	Low (-)	

OPERATIONAL PHASE IMPACTS	
IMPACT	IMPACT SIGNIFICANCE (after mitigation)

[1] The impact assessment methodology used has been closely guided by the DEAT EIA Guideline Document 5, on the assessment of impacts and alternatives (DEAT 2006); as well as reference to the description of the criteria used for the assessment of impacts as contained in the DEA&DP Specialist Guidelines Series (2005).

	Alternative A: Preferred Layout	Alternative B	Alternative B: No-Go Alternative
Visual Impact: Associated with the built-up environment.	Low (-)	Low (-)	Low (-)
Socio-economic Impact: Health & Wellbeing: Provision of housing, increased services and economic growth.	Low (+)	Low (+)	Low (-)
Freshwater Impact: Modification of aquatic habitat and potential for flow and water quality modification (associated with management of stormwater). The NO-GO is associated with the continued deterioration of the habitat.	Low (-)	Low (-)	Low (-)
Health and Safety Impact: Associated with the drowning risk of the detention pond due to fence theft.	Medium (-)	Medium (-)	No Impact
Traffic Impact: Associated with increased vehicles using the road, road infrastructure and congestion.	Low (-)	Low (-)	Low (-)

CONCLUSIONS AND RECOMMENDATIONS BY THE EAP

The proposed development is located within the urban edge of the City of Cape Town and the area has been set aside for development in the Spatial Development Plan. The proposed development site will result in the utilisation of vacant land within the City of Cape Town, therefore contributing to the densification of urban areas.

The most significant impacts as a result of the proposed development will be the loss of the wetland and wetland habitat on site. However, several mitigation measures have been identified in this EIA to reduce the impact from the proposed development on the freshwater ecosystems on site. The freshwater specialist deemed the significant impacts on the freshwater ecosystem as low to very low if the recommended mitigation measures are implemented.

The botanist explained in the botanical assessment that the proposed development site is completely transformed due to historical disturbances to the site. The site is dominated by alien invasive plant species and that no indigenous vegetation remains on the site. It was therefore concluded that the site offers little to no conservation value and does not constitute indigenous vegetation or is characteristic of the Cape Flats Sand Fynbos vegetation type (please see Appendix G2.2).

The loss of the wetland area on site will be offset by incorporating an open space and wetland area of more than 1000m^2 in extent. These areas will be landscaped by an aquatic specialist and a horticulturist, which should result in a more suitable habitat for the animal species the occur in the area.

Besides the impact to the aquatic features on Erf 511, the other significant impact associated with the proposed development at this location is the impact to the surrounding freshwater environment directly adjacent to the proposed housing development. The mitigation measures recommended by the freshwater and animal species specialists must therefore be implemented to reduce this impact to a low significance.

The proposed development will have a positive impact on the surrounding community, as it will increase a sense of place, and improve economic development in the area, as well as job creation during the construction phase.

The No-Go alternative entails that the development will not take place. There is already and illegal occupier residing on the site, by not development the site, illegal occupation of the site may increase. This will result in a

financial burden to the applicant as well as negatively impact the densification of the site and negatively impact the ecological conditions on site.

The No-Go option will also result in the site retaining a low to no conservation value. By developing the site, removing the alien invasive species that currently covers the site and landscaping the open areas with indigenous vegetation, the habitat quality for animal species will improve.

The proposed development will therefore have a low impact on the environment and a positive impact on the surrounding community, as significant amounts of money will be spent to increase the infrastructure and landscape of the area. The site is currently being illegally occupied and contains little to no indigenous vegetation. The development will therefore ultimately improve the area, as open areas will be landscaped, the litter removed, and the habitat quality improved for animal species occurring in the area.

The freshwater-, botanical- and animal species- specialists stated that if the recommended mitigation measures are implemented, there would be a "low" impact to the aquatic and terrestrial ecosystems. As such, there is no reason why the prosed development and associated activities could not be approved. The EAP agrees with this finding and recommends that the development be authorised.