

EXECUTIVE SUMMARY

PROPOSED UPGRADE OF OAKHURST BRIDGE AND ASSOCIATED INFRASTRUCTURE, AND PROPOSED CHANGES TO THE ORIGINALLY APPROVED DEVELOPMENT LAYOUT OF THE OAKHURST LIFESTYLE ESTATE AS WELL AS THE ADDITION OF RE OF 8343 AND A PORTION OF ERF 2958

The applicant, Oakhurst Lifestyle Estate (Pty) Ltd, proposes to establish and operate a retirement residential accommodation facility for individuals/families in the age group of 50 years and older. The proposed site is located within Ward 74 of the City of Cape Town Metropolitan, at the following GPS coordinates: 34°1'19.47"S; 18°22'42.67"E. Please refer to **Figure 1** below to view the locality of the site.

The Applicant was initially granted Environmental Authorisation in October 2015, which was appealed during the legislated appeals period. The Appeal EA was granted on 19 September 2016 (EA Ref: E12/2/4/1-A5/235-2058/10

A non-substantive amendment application was applied for in 2021 to (i) change the name of the holder from B I Scher and M H Derman to Oakhurst Lifestyle Estate (Pty) Ltd, and (ii) extend the validity of the EA. The Amended EA was granted on 21 of October 2021 (Amended EA Ref: 14/3/1/1/A6/36/0535/21

PROPOSED BRIDGE UPGRADE

Part of the establishment of the retirement residential accommodation includes the upgrade of an existing bridge on Remainder of Erf 2224, Hout Bay. The existing structure crosses the Bokkemanskloof watercourse and associated delineated wetland (**Figure 1**).

Please see the table below detailing the dimensions of the existing bridge and proposed bridge:

Table 1. Dimensions of the existing and proposed bridge structure and associated infrastructure

Structure and Associated Infrastructure Description	Length	Width	Height	Area (m ²)
Existing structure	8.12m	3.65m	2.5m	~30m ²
Proposed expansion and associated infrastructure	10m	5.5m	3.19m	~55m ²
Proposed approach roads located within the delineated wetland buffer	121m	5.5m	N/A	~665m ²

The following building quantities are proposed for the upgrade of the bridge and associate infrastructure:

1. Bridge quantities

- 1.1. Excavation: ~300m³
- 1.2. Backfill: ~100m³
- 1.3. Concrete: ~85m³

2. Road and bulk earthworks

- 2.1. Topsoil strip to spoil: ~500m³
- 2.2. Fill: ~1 750m³
- 2.3. Imported layer work: ~350m³

The proposed construction methodology for the proposed upgrade of the Oakhurst bridge will comprise the following:

- The existing bridge structure will be decommissioned.
- There is limited vegetation within the watercourse that is to be cleared due to the presence of the existing bridge structure (i.e. transformed condition of the site). Only necessary clearing and grubbing of the site for access and construction of the works will be undertaken.
- Heavy machinery (e.g. TLB) will be used to excavate the soil. This will be at the position of the abutments. Bedding material will then be compacted into this excavation, rebar, and formwork will be placed on this bedding material in preparation for the concrete base slab to be cast.
- Ready-mixed concrete will be brought to the site and used to cast the base slab to attach to these piles.
- Formwork will then be used to form the shape of the abutments and ready-mixed concrete will be poured to form these abutments.
- Wing walls downstream and upstream on either side of the Bokkemanskloof river. Compacted backfill will be placed between the walls;
- Once the abutments have been cast there will be no further major works within the watercourse.
- The contractor will then install staging for the deck and place the deck rebar.
- Ready-mixed concrete will be brought to the site again and used to cast the bridge deck.
- Wing walls will also be cast, and selected material will then be used to backfill behind the wing walls. This material will then also be used to form the shape of each approach.
- Erosion mitigation measures, including but not limited to gabion baskets, will be constructed for additional protection at the crossing point where/if required.

Finally, rehabilitation / re-vegetation of all areas affected by the upgrade and construction activities will be undertaken using intensive, indigenous grass sod planting or hydroseeding with a suitable indigenous grass seed mix, characteristic of the Peninsula Granite Fynbos vegetation type (i.e., vegetation type pertinent to the proposed site).

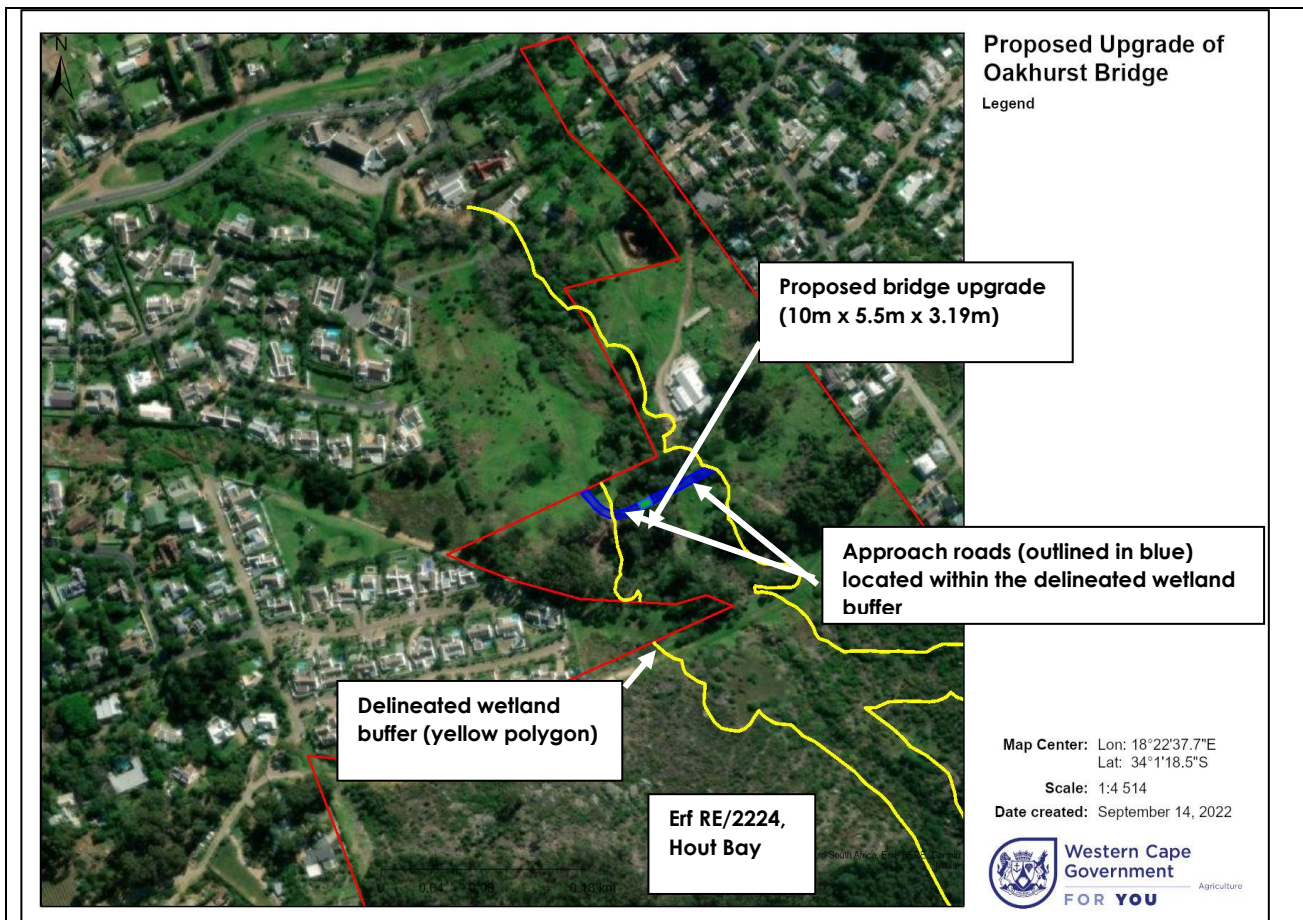


Figure 1: Location of Erf RE/2224, Hout Bay, City of Cape Town (Source: Cape Farm Mapper, 2022).

PROPOSED AMENDMENTS TO ENVIRONMENTAL AUTHORISATION

The proposed amendment constitutes Activity 27 of Listing Notice 1 in terms of the EIA Regulations, 2014 (as amended). Written authorisation is therefore required from the competent authority, the Department of Environmental Affairs and Development Planning (DEA&DP), prior to the undertaking of the said activities.

This determination is based on the following: The proposed revision to the site development plan and additional erf will require the clearance of more than 1ha of indigenous vegetation. Therefore, Listing Notice 1, Activity 27 and Listing Notice 3 Activity 12 is being applied for. Furthermore, an application is made to amend the previous EA. This amendment should include the following project scope and description.

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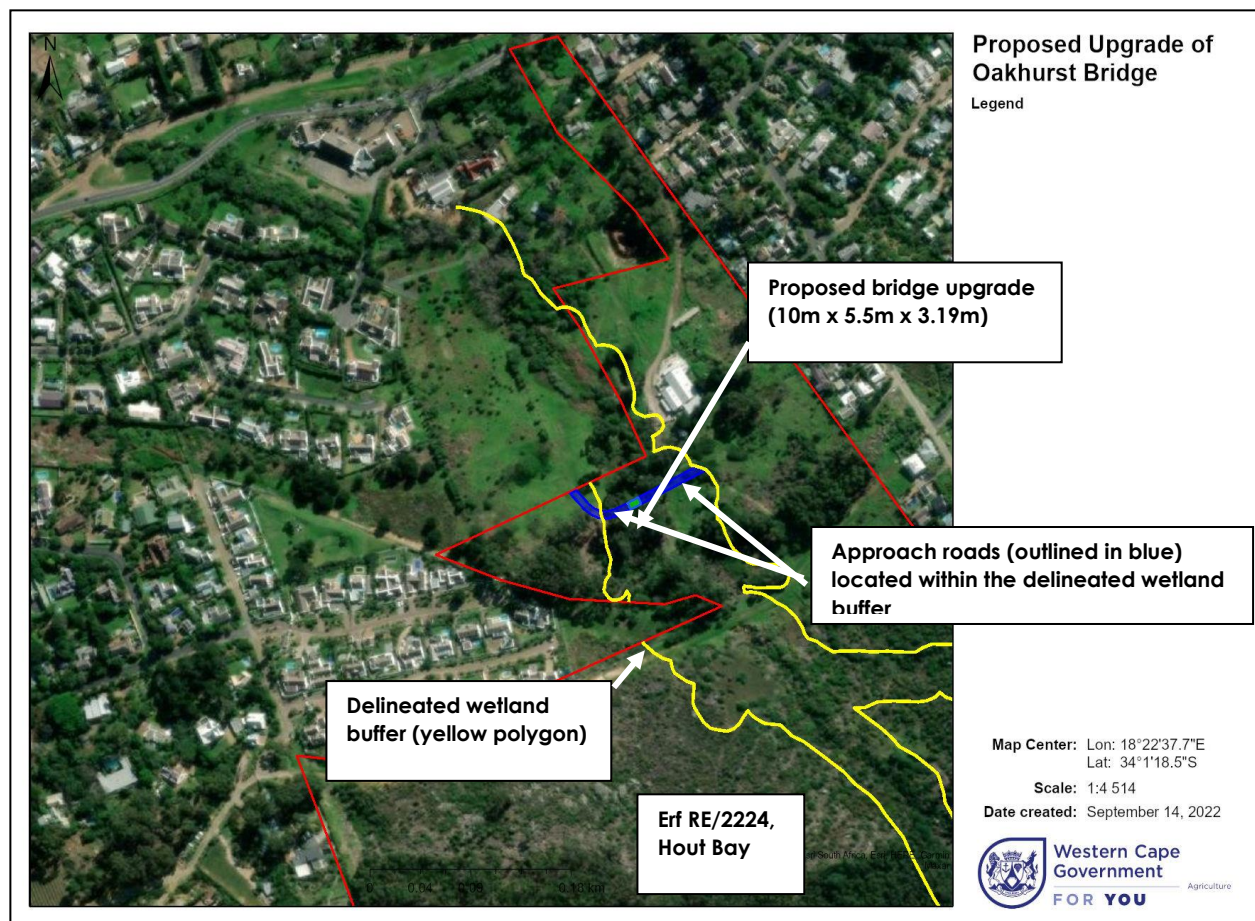


Figure 1: Location of Erf RE/2224, Hout Bay, City of Cape Town (Source: Cape Farm Mapper, 2022).

In addition to the proposed bridge upgrade, The Applicant proposes substantive amendments to change the development layout and to include an additional portion (Erf 2958).

As per the Amended EA (14/3/1/1/A6/36/0535/21), the currently authorised project description is as follows:

The total site area is approximately 78.15 hectares in extent. The development was to comprise full title residential properties, open space components, private roads, and bulk services infrastructure serving the development. The number of properties and extent of each land use envisaged for the authorized development were:

- 65 single residential erven (± 7.64 hectares)
- 1 special residential erf comprising 8 units (± 0.25 hectares)
- 2 rural erven (± 3.20 hectares)
- Private open space / Ecological Buffers / Riparian Corridors (± 5.10 hectares)
- Private roads (± 1.16 hectares)
- Undetermined land portion (future high-level road reserve ± 1.84 hectares)

The residential erven were to range in size but will all exceed the minimum allowable extent of 650m². The remaining area of the site comprises:

- An approximately 9ha open space area just south of the development footprint, which is too steep and too ecologically sensitive to develop; and
- An approximately 48.28ha area adjacent to the Table Mountain National Park, which is currently being managed by SANParks in terms of the National Environmental Management: Protected Areas Act. The area is being managed in accordance with a long-term management agreement between the landowner and SANParks.

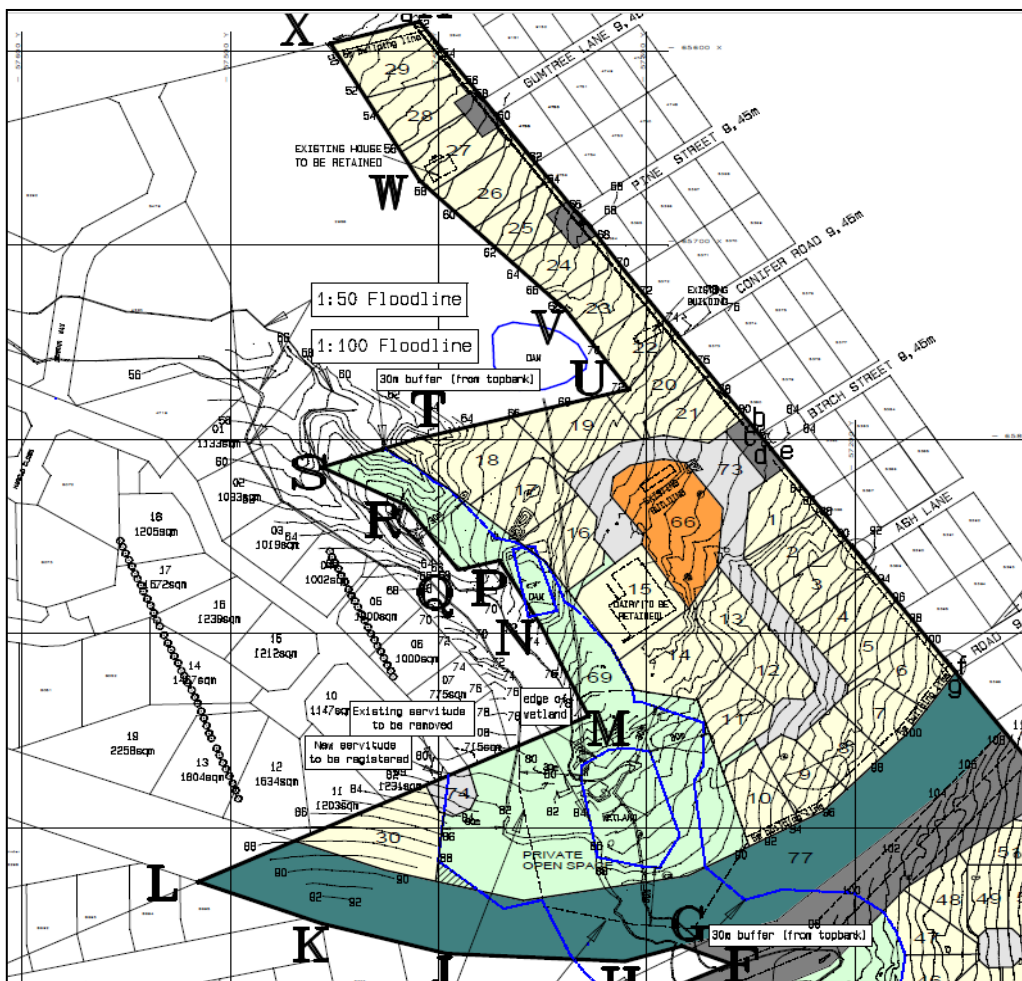


Figure 3: Authorised site development plan as per the amended Environmental Authorisation

Proposed Amendment

The Applicant proposes changing the approved Site Layout Plan and the inclusion of Erf 2958. Housing opportunities will range from dwelling-houses and apartment for independent functioning residents, to care units for assisted living and residents in need of full-time frail care.

The proposed amendment will comprise:

- 74 Dwelling houses: ranging from two-to-three bedrooms (~0.64ha)
- 8 very low-density single dwelling houses (~13ha)
- 20 two-bedroom and 4 one-bedroom apartments (conventional housing component) (~1.21ha)
- One centralized care centre comprised of 28 suites/rooms (~0.12m²).
 - The care centre will also accommodate a reception/waiting area, lobby and lift, consulting/examining room, matron's office, administrative office, assisted shower and bath bathrooms, dining hall, kitchen, staff room and ablutions, storerooms (various), laundry, and basement parking.
- The existing "Old Dairy" building will be renovated and converted into a clubhouse facility comprised of recreation activities (including billiards, card games, gymnasium, yoga studio, sauna, lounge, function dining areas, outside dining terrace, and dressing rooms & ablutions) and offices for management functions. A swimming pool is proposed north of the clubhouse building whereas a bowling green and associated terraced seating are also proposed.
- Private roads (~1.16ha)
- Formal walkways along internal roads
- Four stormwater attenuation ponds and an existing dam will serve as stormwater attenuation and retention functions. This will also be landscaped with indigenous vegetation endemic to the area to promote biodiversity.
- Bokkemenskloof River and associated delineated wetland (~1.81ha)
- An approximately 9ha open space area just south of the development footprint, which is too steep and too ecologically sensitive to develop; and
- An approximately 48.28ha area adjacent to the Table Mountain National Park, which is currently being managed by SANParks in terms of the National Environmental Management: Protected Areas Act. The area is being managed in accordance with a long-term management agreement between the landowner and SANParks.

The estate will be developed in phases (see **Figure 5** below). Phase A will include the development of the clubhouse and associated recreational facilities, apartment blocks, and the stormwater attenuation ponds. The remaining phases (B and C to the north, and E to F to the south) will include the remaining residential dwellings as well as the assisted living and frail care unit. At this stage there are no details available regarding the timing of phases B-F since the development of these phases will be dictated by sale of the units.

Bulk Sewer Connection

The bulk sewage connection is required to service the southern section of the RE of Erf 2224.

An Applicability Checklist was submitted to the DEA&DP on 5 December 2022.

The scope of this Applicability Checklist was to determine:

- The feasibility of the three potential sewage bulk connection alternatives to service the southern portion of RE of Erf 2224 and for DEA&DP to advise on their preferred alternative.
- Whether the proposed sewage pipeline triggers any additional listed activities.
- Whether information regarding the bulk sewage connection constitutes "significant" information which should undergo a public participation process.

****Refer to Applicability Checklist and associated correspondence included in Appendix I3 as well as Botanical Statement relating to the sewer line in included in Appendix G2.5.***

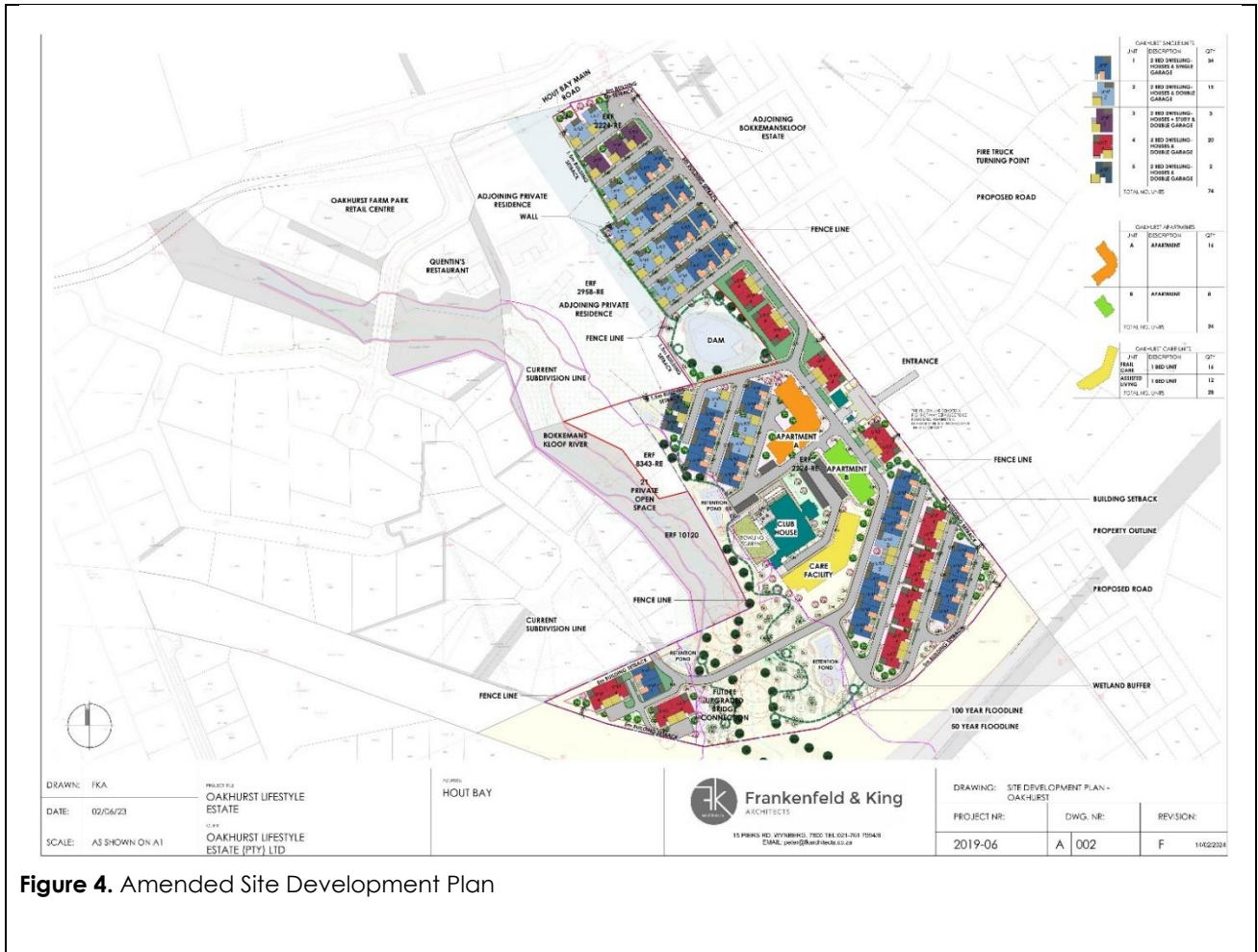


Figure 4. Amended Site Development Plan

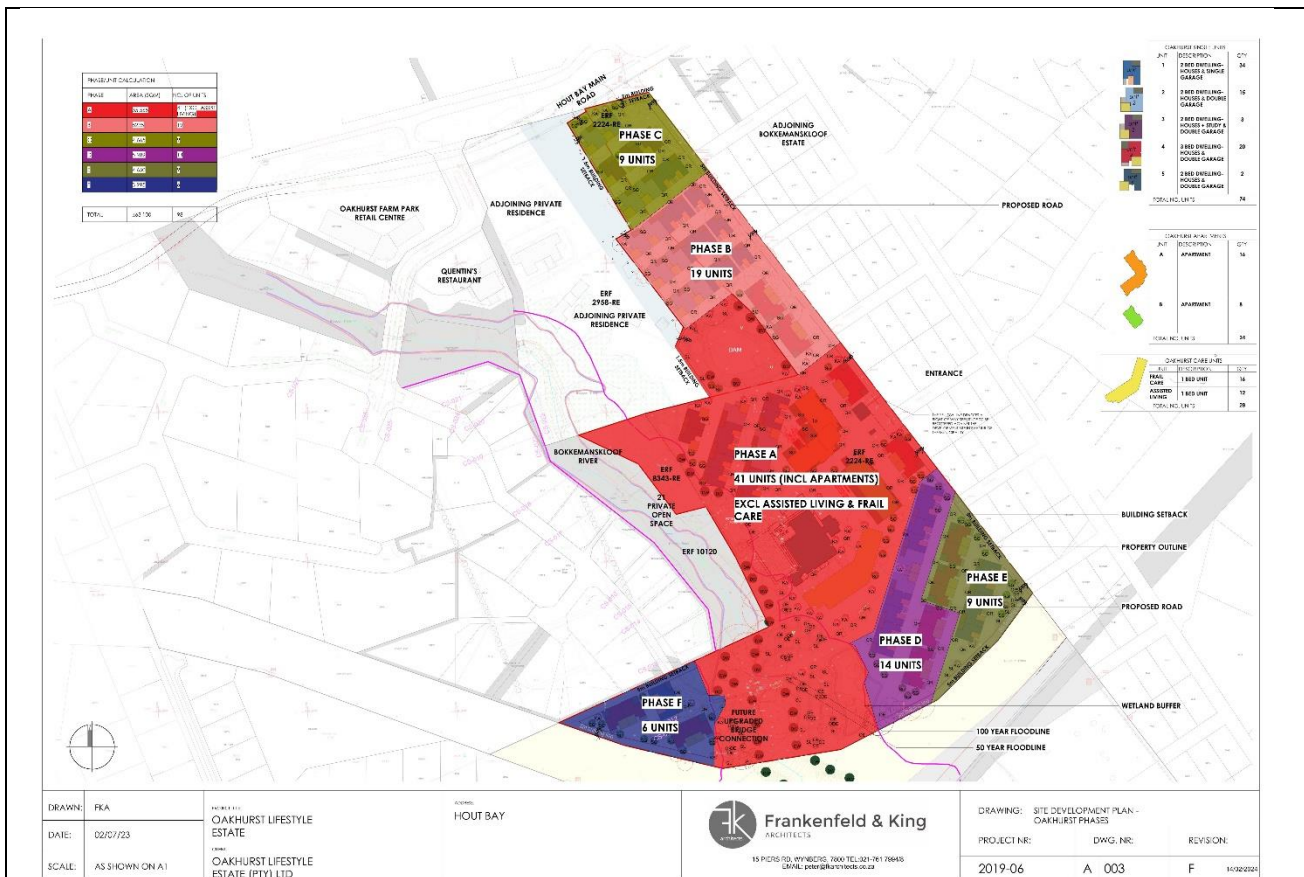


Figure 5: Site development plan showing the different phases

e following findings and mitigation measures were provided by the specialists:

1. Botanical Compliance Statement (Appendix G1)

1.1. Findings:

The proposed development footprint was classified as highly degraded/transformed and did not contain any important plant species or habitats (i.e. species of conservation concern – SCC). Based on the Specialist's definitions, "highly degraded" areas include areas where original vegetation is usually absent and has been previously cleared/removed. Furthermore, the restoration potential of these highly degraded sites is very low with only a few remnant or pioneer species being present. "Transformed" habitats were classified as sites comprised of no remnant species whereby the landscape has been altered irreversibly with no restoration potential. Based on the findings, the site was classified as having a "Very Low" botanical sensitivity. Outside the proposed development footprint, some indigenous vegetation was present up- and downstream of the existing bridge. Vegetation within the footprint was not representative of any original vegetation or habitat characteristic of the vegetation type associated with the site (viz - Cape Peninsula Granite Fynbos). Plant species composition comprised of:

West of bridge: the area was dominated by *Cynodon dactylon* (Kweek) and *Pennisetum clandestinum* (Kikuyu). Some shrubs present included *Osteospermum moniliferum* (Bietou), *Conyza spp.* (Horseweed) and *Senecio pterophorus* (Ragwort) which were located on the edge of the development footprint.

East of Bridge: plant species comprised of *Cenchrus caudatus* (African Feather Grass), with some incidents of *Juncus kraussii* (Sea Rush) and *Athanasia crithmifolia* (Divided Kanniedood). Alien plant species present within the development footprint include *Iris pseudacorus* (Flag Iris – categorised as NEMBA category 1a invasive species), *Pennisetum clandestinum*, and *Plantago lanceolata* (Plantain). Natural vegetation (although in a highly disturbed condition with low species diversity), comprising of *Kiggelaria africana* (Wild Peach) and *Searsia lucida* (Blinktaabos) to the east of the bridge (within the development footprint).

The portion of Erf 2958 was classified as highly disturbed with low botanical sensitivity. The only indigenous species present within this portion include opportunistic bulbs [Beetle Lily (*Baeometra uniflora*) and Threadstar (*Moraea cf. virgatum*)], Graminoids [Sedge (*Ficinia cf. oligantha*) and Haregrass (*Tribolium uniolae*)], and shrubs [Kooigoed (*Helichrysum patulum*), Goldilocks (*Chrysocoma coma-aurea*) and Renosterbos (*Dicerotheramnus rhinocerotus*)]. Alien vegetation present within the area include Lantana (*Lantana camara*), Woolly Plectranthus (*Coleus Amendement Applicationbatus*) and Prickly Pear (*Opuntia sp*), as well as other alien species including Taupata (*Coprosma repens*) and Passerina corymbosa, as well as English Oak (*Quercus robur*).

Based on the findings of the Botanical Compliance Statement, the Specialist concluded that

- The proposed upgrade to the existing bridge is supported from a botanical perspective should the proposed mitigation measures be implemented.
- The proposed amendment will not result in an increased level or change in the nature of impacts compared with the original assessment.
- The proposed amendment is therefore supported from a botanical perspective.

1.2. Proposed mitigation measures:

- 1.2.1. Construction activities must be restricted to the development footprint.
- 1.2.2. Indigenous trees (outside of the development footprint) must not be disturbed.

2. Updated Freshwater Assessment Opinion (Appendix G2)

2.1. Findings:

The initial freshwater assessment was undertaken by Dr Barbara Gale of Aqua Catch cc in April 2008. A review of the freshwater report and further input was provided by Ms. Toni Belcher. Aquatic features within the property comprise the Bokkemanskloof River, a tributary of the Disa/Hout Bay River. The watercourse is the most significant tributary of the Hout Bay River and is approximately 3.2 km in length. Wetlands (valley bottom and seep) occur along the length, and adjacent to the watercourse. Vegetation within the site has largely been transformed due to previous anthropogenic activities whereby the riparian zone comprises alien invasive [*Acacia saligna* (Port Jackson willow), *Acacia mearnsii* (black wattle), and *Paraserianthes lophantha* (stinkbean) and *Pennisetum clandestinum* (kikuyu grass) fringe the riparian zone] and indigenous [*Kiggelaria africana* (wild peach), *Olea europaea* subsp. *africana* (wild olive), *Rapanea melanophloeos* (Cape beech), *Gymnosporia buxifolia* (common spikethorn), *Searsia lucida* (blinktaabos). Indigenous *Typha capensis* (bulrush), *Prionium serratum* (palmiet), *Pteridium aquilinum* (bracken), *Cliffortia strobilifera* (river Caperose), *Ficinia nodosa* (knotted club-rush) and *Zantedeschia aethiopica* (arum lilies)] plant species. The watercourses were classified as follows:

Parameter	Rating	Reason
Bokkemanskloof River	- classified as a simple, single channel (alluvial channel type) with seasonal hydrological features.	
	Riparian	Instream

Index of Habitat Integrity Assessment	Class D (Largely Modified)	Class C (Moderately Modified)	Riparian: Attributed to historic disturbances of the site and subsequent alien vegetation encroachment. A large loss of natural habitat, biota, and ecosystem function has resulted in the modified watercourse. Instream: loss/change of natural habitat and biota have occurred but the basic ecosystem functions are still predominantly unchanged
Ecological Importance and Sensitivity (EIS)	High/Moderate		Watercourse provides habitat and corridor for fauna and flora movement between the mountains and the sea. Such rivers may be sensitive to flow alterations but in some cases may have substantial capacity for use.
Identified and delineated wetlands – classified as valley bottom and seep wetlands			
	Valley Bottom	Seep	
Wetland Integrity	Class C (Moderately/Largely Modified)	Class D (Largely Modified)	Valley Bottom: moderately modified, but with some loss of natural habitats. Seep: A large loss of natural habitats and basic ecosystem functions The wetlands are closely associated with the river and in similar condition, exposed to the same impacts.
Wetland importance	High/Moderate	Moderate	Wetlands with high importance (valley bottom) may be sensitive to flow modifications but in some cases may have substantial capacity for use. Wetlands with moderate importance (seep) are not usually very sensitive to flow modifications and often have substantial capacity for use. These wetlands differ in terms of flood attenuation, flow regulation and water quality improvement features whereby such ecosystem services are linked to the river system. The seep wetland area has an important role in the maintenance of biodiversity, providing habitat for the endangered Western Leopard Toad. The wetlands are also likely to support other amphibians such as Cape River Frog (<i>Amietia fuscigula</i>), and Gray's Stream Frog (<i>Strongylopus grayii</i>), both listed as Least Concern.

The Target Ecological Category for the larger river system, viz. Hout Bay River (Quaternary G22B), is classed as Category D (Largely Modified). Based on this condition, the system should be rehabilitated where necessary and not allowed to degrade any further. The specialist stated that the target can be easily achieved by implementing the 15m buffer (Appendix G2.2) and removing invasive alien vegetation from the river corridor. During the construction and operational phases, the following freshwater-related impacts were identified, namely (i) disturbance and loss of aquatic habitat; (ii) alteration in stormwater (surface water) runoff from the developed site; and (iii) potential for localized water quality impairment. Mitigation measures have been included in the EMP and must be implemented accordingly. From an aquatic ecosystem perspective, the proposed additions to the original, previously authorised development of ERF 2224, it can be said that the proposed new development would not result in a significant increased level or change in the nature of impacts relative to the original assessment although the cumulative impacts could be expected to increase slightly.

The proposed bridge to be upgraded traverses the Bokkemanskloof River, a tributary of the Disa River. This watercourse bisects the site from south to north. The Bokkemanskloof River comprises of a deeply eroded channel whereby small tributaries drain into the stream. Two wetland types (valley bottom and seep wetlands) were identified and delineated on site. The Lower Bokkemanskloof River is classified as a simple, single channel (alluvial channel type) with seasonal hydrological features. The riparian zone and Instream Habitat Integrity (IHI) of the Bokkemanskloof River were classified as Class D (Largely Modified – large loss of natural habitat, biota, and ecosystem function) and Class C (Moderately Modified – loss/change of natural habitat and biota have occurred but the basic ecosystem functions are still predominantly unchanged), respectively. The

Ecological Importance and Sensitivity (EIS) for the Bokkemanskloof River is High/Moderate (i.e. watercourses that are sensitive to flow modifications but have substantial capacity for use).

The Present Ecological State (PES) of the delineated wetland was categorized as a moderately/largely-to-largely modified condition (based on the degree of loss of natural habitats and basic ecosystem functions). The Ecological Importance and Sensitivity (EIS) of the valley bottom and seep wetlands were classified as Moderate and Moderate/High, respectively, whereby the valley bottom wetland (associated with the Bokkemanskloof River) provides more valuable ecosystem services (relative to flood attenuation, flow regulation, and water quality improvement) compared with the seep wetland. The seep wetland does however provide habitat for biodiversity (including the Western Leopard Toad, Cape River Frog, and Gray's Stream Frog). Based on the Aquatic Confirmation Statement (**Appendix G2.2**), subject to the implementation of proposed mitigation measures, the delineated wetland buffer (measured from the delineated edge of the wetland edge) is 15m.

The Recommended Ecological Condition of the larger river system (Hout Bay River) associated with the site is categorized as D (largely modified) according to the Water Resources Classes and Resource Quality Objectives for the Berg Water Management Area. This indicates that the river should not deteriorate any further and should be rehabilitated where necessary. The Bokkemanskloof River and associated wetlands can be improved by the implementation of the 15m buffer and the removal of alien invasive vegetation from the river.

As per the Freshwater Report, the design of the bridge does not alter the channel shape, alignment or depth and does not impede low or high flows within the Bokkemanskloof watercourse. The design of the bridge is therefore supported by the Freshwater Specialist.

2.2. Proposed mitigation measures:

- 2.2.1. The upgrade of the existing bridge and associated activities should take place in drier months of the year;
- 2.2.2. No construction activities other than the proposed bridge upgrade and rehabilitation measures should take place within the recommended development setback (i.e. 15m from the edge of the delineated wetland).
- 2.2.3. The design of the bridge should not alter the shape, alignment, or depth of the watercourse channel or impede low/high flows. As per the Specialist's conclusion, the bridge design is in line with this requirement.
- 2.2.4. Upstream and downstream security walls or fencing through the river corridor must allow for the movement of small aquatic biota;
- 2.2.5. The water quality impacts during the construction phase should be addressed through a Construction Environmental Management Plan for the project, and implemented by an on-site Environmental Officer;
- 2.2.6. The created wetland areas within the site associated with the stormwater infrastructure should be comprised of local indigenous vegetation;
- 2.2.7. Invasive alien plants species should be removed from the river corridor according to a plan. This plan must address the progressive removal of alien vegetation and replacement of alien vegetation with local indigenous vegetation. Invasive grasses (e.g. *Pennisetum clandestinum* and *Cortaderia selloana*) should not be planted in the stormwater wetland areas or within the river buffer area. The growth of invasive grasses must be controlled and removed where applicable. On-going monitoring and removal of alien invasive plant species may be required.
- 2.2.8. The stormwater management plan for the site should ensure that any impacts of stormwater from the site are mitigated as far as possible within the site. Mitigation measures, such as the use of permeable surfaces, re-use of runoff from built areas such as roofs as well as the use of

measures such as swales) should be considered to minimize stormwater impacts on the associated aquatic habitats;

2.2.9. A maintenance management plan (MMP) has been compiled to guide long-term maintenance works in the river as Appendix G2.3. The relevant mitigation measures have been included in this report as well as the EMPr. The MMP includes the following mitigation measures:

- 2.2.9.1. Identify alien plants to be removed. If unsure, please contact the City of Cape Town's Biodiversity Management Branch or CapeNature for assistance.
- 2.2.9.2. Regular monitoring and control of alien vegetation should be undertaken to ensure that the plants are removed while still young saplings can more easily be removed (usually, pulling of seedlings by hand is possible when the soil is wet). This also prevents the spread of the alien plants once seeds have been produced;
- 2.2.9.3. Avoid trampling or clearing indigenous vegetation by using established paths where possible;
- 2.2.9.4. Clear alien vegetation according to the described alien vegetation removal methods for each invasive species as provided in the detailed method statements or with the methods and herbicides/biological control recommended on the Working for Water website: <https://www.environment.gov.za/projectsprogrammes/wfw/resources>
- 2.2.9.5. Clear felled alien vegetation from the river corridor. Larger tree stumps can be left to minimise erosion of the cleared area;
- 2.2.9.6. Where necessary, revegetate cleared areas with suitable indigenous vegetation as suggested in this report. Planted areas will require irrigation and care for 1-2 years following planting. This is particularly a requirement where most of the natural flow within the watercourses has been diverted for use or where the re-established vegetation is on the dry banks of the rivers. Planting the new vegetation at the start of the wet season can assist in ensuring that the new vegetation is kept wet; however, one would need to then avoid planting new vegetation within the areas that will be inundated in winter or subjected to flood flows;
- 2.2.9.7. Ongoing monitoring and clearing of the regrowth of alien plants within these areas will be required
- 2.2.9.8. The growth of indigenous Phragmite reeds and Typha bulrush plants must be managed in the rivers of developed areas.
- 2.2.9.9. Under no circumstances should the palmiet (*Prionium serratum*) be cleared from within the valley bottom and seep wetland under this MMP.
- 2.2.9.10. Removal of indigenous instream vegetation should be conducted by hand cutting or mowing wherever possible, and should avoid large scale removal of soil land vegetation on the banks or in the channel.
- 2.2.9.11. Such removal of indigenous vegetation must be limited to nuisance growths and must take place outside the bird breeding season.
- 2.2.9.12. Patches of reeds immediately upstream or downstream of formal road crossings can be routinely cut as to not cause blockages of the pipes and culverts.
- 2.2.9.13. Reeds should be cut so the stump is no taller than 12cm when cut by hand, and 15cm when using a bush cutter.
- 2.2.9.14. Indigenous sedge and other grasses must be allowed to establish in cleared sections.
- 2.2.9.15. Any clearing works in the channel must not impede the movement of aquatic and riparian biota.
- 2.2.9.16. A minimum base flow should be maintained in the river channel at all times.
- 2.2.9.17. All cut vegetation (including removed alien vegetation) must be removed from the channel and the riparian zone for disposal at a garden waste facility

3. Herpetofauna Assessment (Appendix G3.1)

3.1. Findings:

The project area was found to be moderate-to-heavily transformed from its original condition but nonetheless still maintains basic ecological functionality and habitats which can support various herpetofauna. This habitat includes wetlands and ponds which are used as breeding grounds for amphibians (including Western Leopard Toads (WLT), as reported in the NCC report (2014)).

No amphibian species of conservational concern (SCC) were recorded on the RE of Erf 2224 or in adjacent wetlands as identified by NCC in 2014 (Appendix G3.2). Amphibians recorded during the herpetofauna assessment included *Amietia fuscigula* (Cape River Frog) and *Strongylopus grayii* (Clicking Stream Frog) whereas reptiles included *Afrogecko porphyreus* (Marbled Leaf-toed Gecko), *Lygodactylus capensis* (Common Dwarf Gecko), and *Naja nivea* (Cape Cobra). These recorded species are classified as Least Concern (IUCN, 2017 / SARCA, 2014).

It must be noted that due to the (i) cryptic nature of some amphibians, (ii) single-season and seasonal timing of the survey, and (iii) historic recordings of certain amphibians (during previous assessment – **Appendix G3.2**), it is plausible that some species may be present and/or utilize parts of the site for brief periods during the year. Based on these factors, the specialist rated the likelihood of herpetofauna SCC occurring on the assessed site.

Table 5. Likelihood of herpetofauna SCC occurring on site. Table adapted from the Herpetofauna Assessment (**Appendix G3.1**).

Scientific Name	Common Name	Likelihood of Occurrence	Specialist Comment
Amphibians			
<i>Arthroleptella lightfooti</i>	Cape Peninsula Moss Frog	Low - Moderate	Habitats present on Erf 2224 do not provide an ideal habitat for <i>A. lightfooti</i> however, few records have been reported within 5km.
<i>Breviceps gibbosus</i>	Cape Rain Frog	Low	There are no records for any of these species within 4km of the project area.
<i>Cacosternum platys</i>	Flat Caco	Low	
<i>Capensibufo rosei</i>	Rose's Mountain Toadlet	Low	
<i>Microbatrachella capensis</i>	Micro Frog	Highly Unlikely	Based on site conditions and the species' habitat requirements, it is 'highly unlikely' that this species exists in the project area, nor would it utilize the site in the foreseeable future.
<i>Sclerophrys pantherina</i>	Western Leopard Toad	Confirmed	The presence of this species has been confirmed within the project area and is known to breed in the project area (NCC, 2014 – Appendix G3.2).
<i>Xenopus gilli</i>	Cape Platanna	Low	No records have been reported within 5km of the Erf 2224. It is considered unlikely that this species could migrate to the project area given the anthropogenic barriers that exist.
Reptiles			
<i>Bradypodion pumilum</i>	Cape Dwarf Chameleon	Moderate	<i>Bradypodion pumilum</i> inhabits a wide range of habitats, ranging from indigenous to alien vegetation, as well as urban environments.

3.2. Proposed mitigation measures:

The following mitigation measures were proposed:

- 3.2.1. An Environmental Control Officer (ECO) with appropriate herpetofauna experience must be present during site clearing activities. Any encountered herpetofauna must be relocated either to the wetlands or southern portion of the project area.
- 3.2.2. Wetland area must be demarcated as a no-go area.
- 3.2.3. The feasibility of installing wildlife corridors or tunnels under access roads should be considered.
- 3.2.4. Applicable traffic calming measures must be put in place. Signage warning road users of the possible presence of WLTs is required.
- 3.2.5. All alien invasive species should be removed from the project area and the wetlands during the rehabilitation process. Such rehabilitation should occur from January to July to avoid the primary breeding season of most amphibian species. The removal of alien tree species from the Bokkemenskloof River should be prioritized.
- 3.2.6. Construction personnel must be educated on the possible presence of endangered amphibians and chameleons. The intentional killing of any amphibian or reptile is strictly prohibited.
- 3.2.7. The use of poisons should be avoided as far as possible.
- 3.2.8. Prior to the commencement of construction activities, a nocturnal search and rescue mission should be conducted to capture and relocate any Cape Dwarf Chameleons in the project area. Should any chameleons be found, the animals are to be relocated to suitable habitat in the adjacent Table Mountain National Park (not further than 2km from the project area).
- 3.2.9. Ensure that no structures are built which could act as a pit-fall trap for amphibian species. Should any trenches be excavated, such trenches must be checked every morning for the presence of amphibians and reptiles.
- 3.2.10. Ensure no pollutants enter the wetland areas.
- 3.2.11. Moreover, based on the recommendations made by the Herpetofauna Specialist, mitigation measures detailed above must be read in conjunction with the following mitigation measures from the "Western Leopard Toad Habitat Assessment for the Proposed Development of Erf 2224, Hout Bay (NCC, 2014)" report as well as in conjunction with the guidelines developed by the Biodiversity Management Plan of the WLT (**Appendix G3.2**), namely:
 - The Construction Phase Environmental Management Guideline and Construction Checklist.
 - The Western Leopard Toad Development Design Guidelines.These completed documents must be kept on site and made available on request.

4. Updated Visual Impact Assessment (Appendix G4.1):

4.1. Findings:

the following visual impacts were identified by the specialist, namely namely (1) change in character of the site, (2) visibility from a scenic, tourist route, and (3) light pollution. The specialist rated the visual impacts as follows:

Potential Visual Impacts		Impact associated with 2011 Previously Authorised SDP	Impact associated with 2022 Proposed Oakhurst Amendment SDP
Change in site character		Medium (-) post mitigation	Low (-) post mitigation
Visibility from scenic tourist route	Partial loss of scenic resource	Low (-) post mitigation	Low (-) post mitigation

	Visibility from sensitive receptors	Low (-) post mitigation	Low (-) post mitigation
	Visual intrusion on historic precinct	Low (-) post mitigation	Low - Medium (-) post mitigation

The proposed development is in line with the City of Cape Town's policies regarding densification. As per the change in layout, the proposed development will be situated on the lower lying slopes – reducing its visual impact, compared with the 2011 SDP, in areas in the valley. Based on the design of the units, the layout is visually acceptable due to the units in front screening the lower storey of the double story units situated behind these units in the front. The specialist has stated that there is sufficient space between the proposed development and the Oakhurst homestead to mitigate the visual intrusion whereby a green visual screen can be provided along the northern western boundary. In this case, a historic hedge would be appropriate. It is the opinion of the VIA Specialist that should the proposed mitigation measures be implemented, the proposed amendment should be supported.

4.2. Proposed mitigation measures:

The following mitigation measures were proposed by the VIA Specialist:

- A hedge and tree border must be planted along the north western border to screen the proposed development from the Historic Oakhurst Homestead.
- Visually recessive building materials and colours must be used
- Large trees, already surveyed should be retained where possible and in accordance with the Landscape Plan.
- Clumps of indigenous plants that have been surveyed must be retained as per the Landscape Plan.
- Hedging to provide visual screening for sensitive receptors to the east should be addressed.
- Street and parking area lights must be minimised but in accordance with local authority requirements.
- Any luminaires must be top shielded so that light only shines downwards, thereby preventing pollution
- Light spillage should be contained
- No uplighting onto buildings
- Limit extent of damage, keeping cut and fill to a minimum.
- The construction areas must be fenced off to minimise visual disturbance thereby protecting and retaining trees and other vegetation
- Erect temporary shade cloth on boundaries with sensitive receptors such as residential areas to the east
- The site must be kept tidy at all times
- Erosion mitigation measures must be implemented to protect building material stockpiles.
- Appropriate mitigation measures must be implemented to minimise dust generation and its effect on the surrounding buildings and dwellings.
- Construction-related mitigation measures must be carried through to the operational phase where applicable. To this end it must be ensured that the:
 - Oakhurst Lifestyle Estate Management have an Operational Plan that clearly states their obligations in terms of ongoing maintenance of buildings and landscaping (existing and new)
 - Oakhurst Lifestyle Estate Management continue minimising light pollution. This includes, but is not limited to, top covering luminaires, installation of low spill type lights to minimize light spill and pollution, keep outdoor lighting as bollard lighting, external lighting on buildings must be minimised or completely omitted.
 - The plant visual screen (historic in nature), along the northern western boundary of the proposed development such that the proposed development is screened from the Oakhurst Homestead, must be maintained.

5. Updated NID (Appendix 5.1):

5.1. Findings:

- No heritage resources were present on the additional site (i.e. portion of Erf 2958) or in the areas where the change in the layout will take place.
- The recommendations made by Aikman Associates (**Appendix G5.3**) are supported.
- The specialist recommended that no further heritage studies are required.
- In response, the HWC stated:

"since there is no reason to believe that the proposed residential development on Erf 2224 and 2958, Off Hout Bay Main Road, Hout Bay, will impact on heritage resources, no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required. However, should any heritage resources, including evidence of graves and human burials, archaeological material and paleontological material be discovered during the execution of the activities above, all works must be stopped immediately, and Heritage Western Cape must be notified without delay. Fossil finds procedure to be included in environmental authorization".

5.2. Proposed mitigation measures:

- Should any heritage resources, including evidence of graves and human burials, archaeological material and paleontological material be discovered during the execution of the activities above, all works must be stopped immediately, and the HWC must be notified without delay.
- Fossil finds procedure to be included in the environmental authorization
- As per the recommendations of the updated NID, the following mitigation measures should be implemented:
- The section of oak woodland on Erf 2224 should be protected for its historic significance. Hile 10 trees will be removed, 109 trees will be planted as per the updated Landscaping plan.
- The Bokkemenskloof riverine corridor and its vegetation should be protected in terms of its aesthetic and scientific significance. The buffer areas recommended must be implemented prior to the commencement of land clearing.
- The Klipkershout grove is to be accommodated within the river corridor buffer area.

6. Updated Traffic Impact Assessment:

6.1. Findings:

Based on the proposed amendment application, the TIA was revised (**Appendix G6.1**) to re-evaluate the potential traffic-related impacts associated with the proposed amendment to the development, as well as recommend measures to mitigate identified impacts.

The City of Cape Town Municipality has approved temporary Left-In-Left-Out access via Hout Bay Main Road during the construction phase. Oakhurst Avenue onto Dorman Way will be the primary access over the long term.

In light of this, the following intersections were studied, namely the Hout Bay Main Road / Dorman Way (Priority stop control) (Intersection 1), and Hout Bay Main Road / Blue Valley Avenue (Priority stop control) (Intersection 2).

Five (5) traffic scenarios were identified and analysed. The results of these scenarios have been included below to highlight the methodology used to determine access to site:

Scenario 1, 2022 existing traffic conditions: based on capacity results and analyses, all intersections operate at an acceptable level of service (LoS) and with sufficient capacity.

Scenario 2, 2027 background traffic conditions: conditions were based on the existing scenario intersections geometry/control. A negative growth rate of ~ 1 – 2% along Hout Bay Main Road was observed from 2013 – 2016 traffic volumes. 2021 traffic volumes were therefore escalated by a growth rate of 1%/annum for five years plus the approved/in development trips. This was also based on the previous traffic report (ITS 2350.2 Response to Prof. Vanderschuren Report). Intersection 2 is within an acceptable LoS with sufficient capacity. With regards to Intersection 1, vehicles on the northbound turning right are expected to be challenged finding gaps along Hout Bay main road. However, it must be noted that the traffic volume is expected to increase by 10 vehicles.

Scenario 3, 2027 total traffic conditions (access via Birch Street onto Blue Valley Avenue): Based on the traffic engineer's assessment, Intersection 2 operates at an acceptable LoS and with sufficient capacity, whereas Intersection 1 whereby vehicles travelling northbound will turn right northbound along Hout Bay Main Road. Please refer to Figure 6 in Annexure A of the revised Traffic Impact Assessment (**Appendix G6.1**).

Scenario 4, 2027 total traffic conditions (access via Oakhurst Avenue onto Dorman Way): Based on the traffic engineer's assessment, Intersection 2 operates at acceptable LoS and will sufficient capacity, except Intersection 1 whereby vehicles travelling northbound will turning right northbound along Hout Bay Main Road. Furthermore, the additional 10 vehicles would increase the delay for PM peak hour by ~ five seconds (resulting in a total delay of 42 seconds). Due to this elevated delay, it is recommended that a roundabout be constructed. Please refer to Figure 8 in Annexure A of the revised Traffic Impact Assessment (**Appendix G6.1**).

Scenario 5, 2027 total traffic conditions (access via Oakhurst Avenue onto Dorman Way with 3% growth escalation per year): Based on the traffic engineer's assessment, Intersection 2 will continue to operate at an acceptable LoS and with sufficient capacity, however Intersection 1 would not operate at an acceptable LoS. However, should the proposed roundabout upgrade, Intersection 1 would operate at an acceptable LoS and with sufficient capacity. Please refer to Figure 9 in Annexure A of the revised Traffic Impact Assessment (**Appendix G6.1**). The 3% increase was factored into calculations to account for the potential, unknown effects of how the previous COVID-19 pandemic has impacted traffic volumes along Hout Bay Road (for example, more would-be travellers may be working from home permanently, etc).

Oakhurst Avenue is planned to extend by 260m south before an estimated 10m long bridge which needs to be upgraded (currently being applied for through a basic assessment application).

6.2. Proposed mitigation measures:

The Traffic Engineer made the following recommendations:

- A roundabout is implemented at Intersection 1. This will enable Intersection 1 to operate at an acceptable LoS and with sufficient capacity.
- The proposed development will generate an estimated 44 total trips (20 in and 20 out) during weekday A.M. peak hour traffic and an estimated 48 total trips (24 in and 24 out) during weekday p.m. peak hour traffic times.
- There is a need for formal sidewalks along certain public roads for pedestrian safety. Moreover, due to the absence of such facilities (i.e. sidewalks would lead to nowhere), the construction of such

sidewalks would not significantly contribute to the facilitation of non-motorized transport (NMT). However, due to the current road designs (viz – internal streets are narrow and winding), vehicle speeds will be low which will benefit NMT.

- It is recommended that a bus embayment be considered in both directions on Hout Bay Main Road.

Based on the Traffic Engineer's investigation, the potential traffic-related impacts of the proposed development on the external road network will be insignificant. Furthermore, it was recommended that from a traffic perspective, the proposed development be considered for approval.

7. Updated Engineering Services Report (Appendix G7.1):

7.1. Findings:

Water Demands

- The Average Daily Water Demand (AADD) for the development is: 92.80kl/d
- The Total Average Annual Daily Water Demand (TAADD) is: 111.36kl/day (TAADD for previously authorized development was ~ 193.60kl/day)
- Peak hour demand (Phour) of 5.19l/s (Phour for previously authorized development was ~ 13.7l/s)
- It is proposed that the same connection point and route as per council-approved development on RE of Erf 8434 (*not this application*). It is proposed to connect to the existing 100mm diameter main water main in Grotto Wat at the Bell Mouth (located to the west of the proposed development. Contingency plans have been provided in the Engineering Services Report.
- The internal distribution system will comprise of 110mmØ uPVC Class 12 water mains (up to the contour elevation RL59.35m). Thereafter, the static head is 90m relative to the connection point head. Below this elevation, uPVC Class 16 water mains will be provided as well as a Pressure Reducing Valve at contour elevation RL59.35m.

Sewage Demands

- Peak Daily Dry Weather Flow (PDDWF) typically ranges from 0.60 to 0.80kl/day/unit for retirement villages. Using an average of 0.70kl/day/unit equates to 70% of AADD. The total PDDWF is 56.56kl/day.
- the Instantaneous Peak Dry Weather Flow (IPDWF) is 1.44l/s excluding infiltration. The groundwater infiltration flow is estimated to be 0.24l/s or 20.79kl/d. The total IPDWF including infiltration is, therefore: 1.68l/s.
- As per the Instantaneous Peak Wet Weather Flow (IPDWF) an allowance of 30% spare capacity is made for stormwater ingress resulting in an IPDWF of 2.19l/s.
- The internal sewer network will be water-borne gravity sanitation system. The main sewer lines will be 160mmØ uPVC pipes (Class 34) with 110mmØ erf connections. Foul Sewer pipe to be located in the road reserve.
- Due to the Bokkenskloof River dividing the development site into an eastern and western portion in terms of foul sewer planning, the development requires two foul sewer connection points. Connection point 1 is located at the north-eastern corner and Connection Point 2 is located on Erf 8434 (Oakbridge Estate).

Refuse Removal

- Refuse removal facilities will be provided, and arrangements made for collection in accordance to the Integrated Waste Management Policy of the City of Cape Town and the guidelines for minimum requirements for waste collections and waste storage areas/rooms published by the solid waste management department.

Based on the findings of the Engineering Services Report, the engineers concluded that:

- Sufficient civil engineering services are available within the vicinity of the proposed amended development
- CoCT has confirmed the availability of sufficient water and sewage services for the development.

8. Updated Stormwater Management Plan:

8.1. Findings:

- From a Stormwater Management Perspective, and in line with the City of Cape Town's Management of Urban Stormwater Impacts Policy is designed to implement Sustainable Drainage Systems (SuDS), runoff from buildings mainly comprises suspended solids (SS) and total phosphorous (TP) which needs to be trapped and removed.
- Stormwater runoff will be attenuated (and treated) by the use of attenuation ponds, permeable paving, sediment traps, and revegetated areas.
- In order to attenuate stormwater runoff, five stormwater attenuation ponds will be required. These ponds will act as both an attenuation facility and sediment/litter trap. The two existing dams will be used to treat runoff and attenuate the peak runoff from the development site and the external sub-catchments.
- The quality of stormwater runoff will be adequately treated by use of stormwater measures proposed above.

8.2. Proposed mitigation measures:

- The implementation of stormwater management measures will ensure that the post-development flows are attenuated to pre-development levels for the entire site area.
- Erosion mitigation measures as per Annexure D must be implemented where applicable. This includes, but is not limited to the use of diversion drains, revegetation, level spreaders, hay bale, silt fences, temporary construction exit, sediment traps, etc.
- A maintenance plan has been developed by the engineers. The implementation of the maintenance plan must be undertaken by the management of Oakhurst Lifestyle Estate.

9. Electrical and Fibre Services:

9.1. Findings:

- The Before (BDMD) and After (ADMD) Diversity Maximum Demand for the development will be 2095.60 and 955.70kVA, respectively.
- The CoCT has indicated that spare kVA capacity is available on their network to accommodate the new development but that the capacity is not reserved.
- In conclusion, the electrical engineers state that the proposed amended development can be adequately serviced by the local authority electricity department and fibre is available in the surrounding area. Furthermore, the following was identified/proposed:
- A utility substation with an outdoor bulk metering unit is to be constructed at the gatehouse entrance off of Birch Lane with 24hr access. The substation is for exclusive use by the CoCT.
- A consumer substation is proposed for the control of the estate's private MV network
- Minisubs, LV network and kiosks with the provision of prepaid and conventional credit metering.
- Internal and external MV and LV cables must be installed underground within the road reserve.
- Street lighting is required along internal roads,
- A general services supplies at the gatehouse, etc.

9.2. Proposed mitigation measures:

- As per the Engineers Report, residential greener initiatives and renewable energy initiatives were proposed which include:
- Rainwater catchment and harvesting
- LPG Gas

- Solar collectors, inverter, and battery backup: as per statements issued by the National Regulator, residential developments can participate in becoming independent (preparing for further electrical network outages). The engineers proposed the provision of a central standby generator for continued electrical supply and to incorporate bi-directional tariff meters whereby residents with solar systems can import/export excess energy within the internal electrical network.
- Recycling waste
- Landfill and biodegradable compost
- Electric vehicles
- Water heating (solar panel heating and vacuum tubes)
- Greywater recycling

10. Landscape Management Plan

10.1. Findings and recommendations:

- Alien trees, such as the approximately 82 Bluegum trees, will be removed.
- As part of the landscape plan, the following indigenous species will be planted:
 - 45 x *Olea europaeae* subspecies. *africana*
 - 45 x *Diospyros whyteania*
 - 80 x *Syzigium guineense*
 - 45 x *Kiggleria africana*
 - 31 x *Searsia lucida*
 - 30 x *Rapanea melanophloeos*
 - 109 x *Quercus rober*

Riverine areas

- 5736 x *Cyperus textiles*
- 5736 x *Elegia tectorum*
- 5736 x *Juncus capensis*
- 5736 x *Melianthus major*

Natural areas

- 1342 x *Agathosma ovata*
- 2683 x *Aristida junciformis*
- 894 x *Erica glandulosa*
- 2683 x *Helichrysum petiolare*
- 8046 x *Lampranthus spectabilis*

Public areas

- 1937 x *Felicia amelloides*
- 323 x *Leucadendron spp.*
- 967 x *Pelargonium capitatum*
- 1292 x *Plumbago auriculata*
- 7752 x *Searsia crenata*
- 7752 x *Arctotis acaulis*

Residential areas

- 6002 x *Agapanthus praecox*
- 2667m² x *Cynodon dactylon*
- 2667 x *Clivia miniate*
- 1334 x *Dietes grandiflora*
- 667 x *Gazania rigens*
- 2001 x *Pelargonium reniforme*
- 2667 x *Plectranthus zuluensis*

Given the low ecologic, economic and social impacts associated with the proposed upgrade of the existing bridge and the proposed amendments, and given the positive impacts associated with this proposal, it is of the EAP's opinion that this is an adequate motivation for the site to be developed.

The implementation of the design, construction and operational phase measures contained in the EMPr in **Appendix H**, will maximize the benefits and avoid/ minimize any environmental risks associated with the proposed upgrade of the existing bridge and the proposed amendments to the Environmental Authorisation. It is in this case of particular importance to manage and mitigate identified potential impacts associated with the upgrade of the existing bridge.

There is thus adequate motivation for the proposed upgrade to an existing bridge to proceed and the proposed amendments to be approved. **It is therefore recommended that this application be authorised with the necessary conditions of approval as described throughout this Pre-Application Draft BAR and the EMPr (Appendix H).**