



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA

Private Bag X313, Pretoria, 0001, Sedibeng Building, 185 Francis Baard Street, Pretoria,
Tel: (012) 336-7500 Fax: (012) 323-4472 / (012) 326-2715

WATER USE LICENCE APPLICATION SUMMARY

NAME OF APPLICANT:

**Power Construction (Pty) Ltd
(WU21442)**

Compiled by:

Sonia Jordaan

Reviewed by Dr Jackie Dabrowski

Jabrowski

Jordaan

Signature:

Date : 25 March 2022

1. Background and purpose

The applicant, Power Group (hereafter referred to as the developer), are applying for a Water Use License to build a residential development. The proposed development is situated in King George Park, south-east of Kingswood Golf Estate and west from the George CBD. The development will cover approximately 4 hectares on Erven 21028 & 21029 and a part of consolidated Loch Lomond Avenue, known as The Village Ridge in George, Western Cape. The consolidated Loch Lomond Avenue with Erven 21028 & 21029 forms Erf 28930, George.

The Government of the Western Cape, Department of Human Settlements, supports the development at the Village Ridge. The properties were sold and transferred to the developer to be developed within a specified timeframe to provide affordable housing. This development forms part of the Government's Finance Linked Individual Subsidy Program (FLISP), which enables first-time home buyers with lower incomes to obtain a housing subsidy, enabling them to purchase a home. In April 2018, the Department of Environmental Affairs and Development Planning (DEA&DP) issued a letter to the developer that the proposal does not trigger listed activities and that written authorisation is not required from the authority to commence with activities. This was in response to an Applicability Checklist submitted by the developer to the department which provided the planned layout of the development. The original development layout was approved by the George Municipality Planning and Development Directorate in September 2020, as part of the original Die Bult approval in 2001. Hence, the developer cleared the site for construction in May 2021. The Department of Water Affairs represented by the Breede-Gouritz Catchment Management Agency (BGCMA) were not consulted regarding necessary authorisations prior to commencement of the development.

Due to the presence of wetlands within the footprint of the development, environmental authorisations should have been obtained prior to commencement of the project. Although this was not picked up in the Applicability Checklist submitted to DEA&DP. Subsequently, the Environmental Law Enforcement directorate of DEA&DP directed the developer to cease activities in the wetland areas in May 2021. Subsequent to that, a directive was issued by the Compliance, Monitoring and Enforcement division of the BGCMA instructing the developer to cease all activities within the regulated area, which essentially covered the entire development area. Temporary closure of the Power Construction building site at Erven 21028 and 21029 commenced in August 2021, pending the outcome of applications for the required Environmental Authorisations in terms of the National Environmental Management Act (NEMA) and the National Water Act (NWA). Structures and machinery that was in the regulated area had to be removed and erosion control methods and basic rehabilitation procedures of the wetland flat and Camphersdrift riparian area had to be applied. In terms of NEMA a Section 24G process will be followed, while applying for the Water Use License (WUL) in terms of the NWA.

The developer has amended the layout of the development to address the sensitive wetland areas and the buffer areas recommended and demarcated by the Aquatic and Amphibian specialist studies. These will be indicated as conservation areas along with buffers within the development. The preferred plan has a total area of 7 598 m² of Open Space Zone 3 allocated, which was not included in the approved plan. The Open Space Zone 3 will consist of the 19 m wetland flat buffer and green corridor linking the wetland flat to the Camphersdrift Wetland. A slight increase in open Space Zone 1 is also in the preferred plan to include an area of land adjacent to the wetland flat buffer and the 19 m buffer along the Camphersdrift Wetland. This increase in open space is dedicated to the conservation and protection of wetlands and associated flora and fauna.

There is no Existing Lawful Water Use for this site. The Water Use License will be for Section 21(c) and 21(i) of the National Water Act, 1998 (Act 36 of 1998), which are defined as follows:

21c: Impeding or diverting the flow of water in a watercourse

21i: Altering the bed, banks course or characteristics of a watercourse

2. Location of water uses

The water uses take place within quaternary catchment K30B, within the Breede-Gouritz Catchment Management Area, located within George Municipality and the administrative district of George, Western Cape. (Figure 1 and Table 1.) The water use is on Erven 21028, 21029, consolidated Loch Lomond Avenue, street parcel RE/20958 and Erf 21030, which is a public space. On the northern boundary of the property is the sport fields of Die Bult (Heather Park High) School. To the east of the property is the Camphersdrift Wetland (River) and beyond the river is Dormehls Drift, a residential area. On the southern and south-western boundaries are Group Housing developments and the King George Protea Hotel. On the western boundary are several single residential erven comprising of residential dwellings and some vacant stands. On Erf 21028 is an isolated wetland flat (Figure 2).

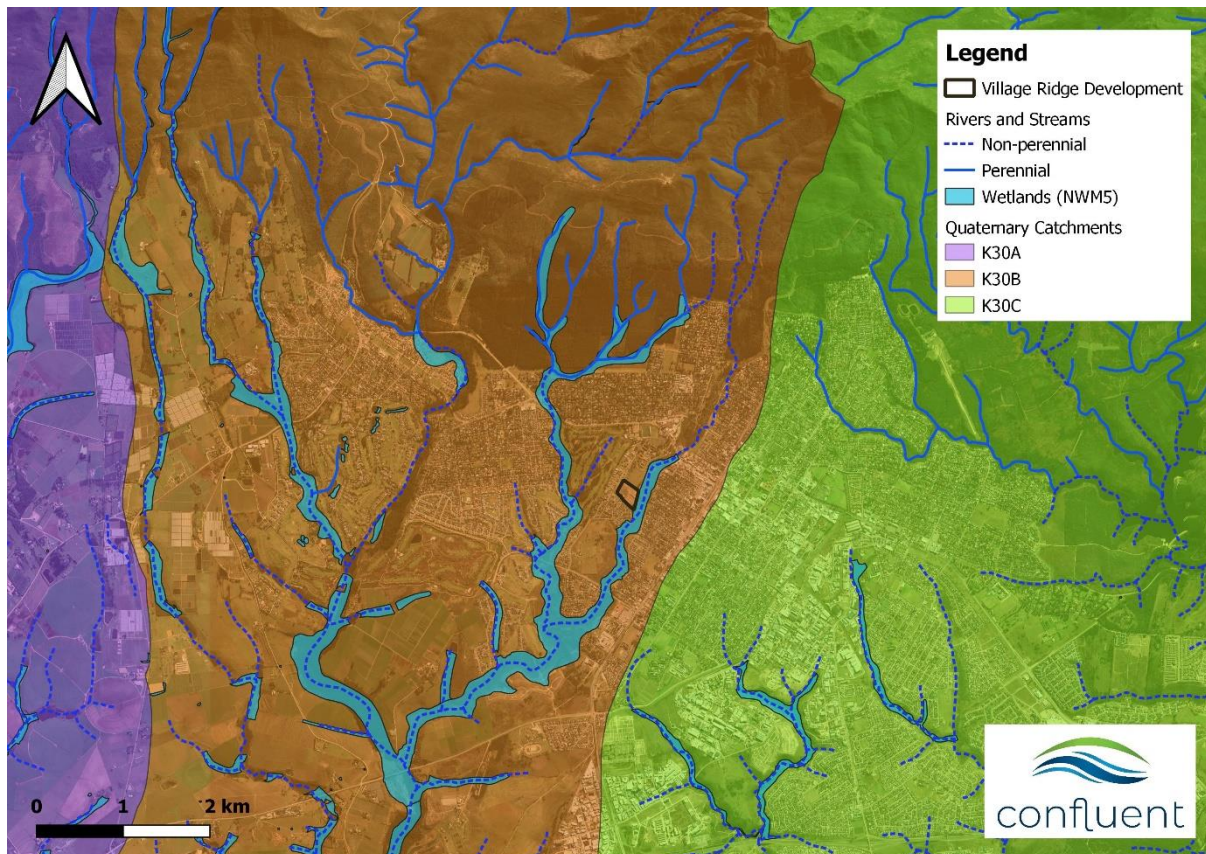


Figure 1: Location of the proposed Village Ridge housing development site in relation to mapped watercourses and quaternary catchments.

Property details

Table 1: Property owner details

Property description	Title Deed number	Owner
Erven 21028 & 21029	T52175/2021	Power Construction (Pty) Ltd
Street Parcel 20958 Loch Lomond Avenue	T64893/2004	Currently: George Municipality
Public space Erf21030	T64893/2004	George Municipality
Street Parcel RE/20958	T64893/2004	George Municipality

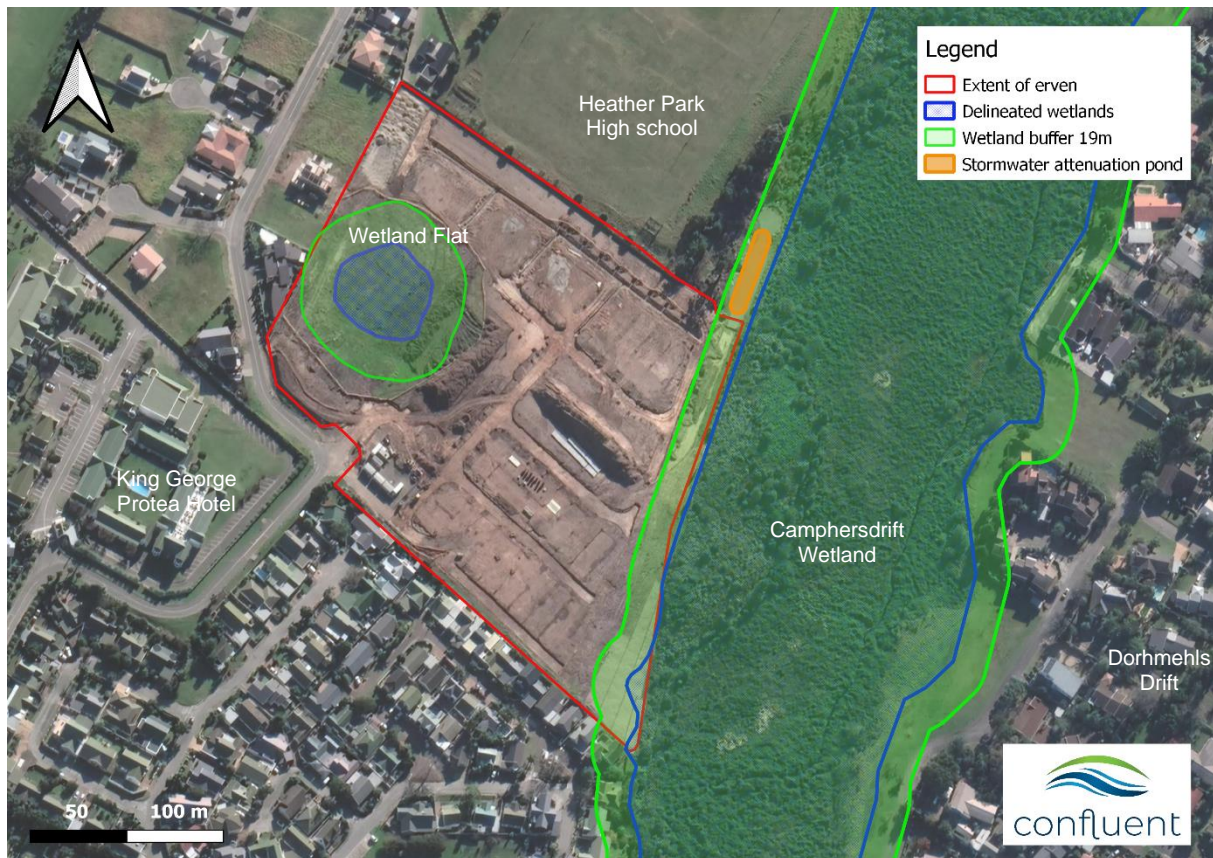


Figure 2: Location of development and wetlands in relation to the surrounding area

3. Administrative documents and technical reports submitted by applicants

3.1 Administrative documents

The following administrative documents have been submitted in support of this application:

- Letter of Appointment
- Title Deed of properties
- Tax invoice of Breede-Gourtiz administration fee
- Applicant's company registration certificate
- Applicant's contact details
- Applicants' B-BBEE compliance certificate

3.2 Reports and other technical documents

Table 2 lists reports and other documents submitted as part of the application.

Table 2: Documents submitted for application

Technical documents	Compiled by	Date compiled
Amphibian Study	Ekologik (Pty) Ltd., F de Lange	March 2022
Aquatic specialist impact study/Assessment report	Confluent Environmental (Pty) Ltd., Dr J Dabrowski	March 2022

Technical documents	Compiled by	Date compiled
Flood line study	Fraser Consulting Civil Engineers cc, A.L Fraser	August 2021
Geotechnical report	Outeniqua Geotechnical Services with civil consultant Zutari	May 2021
Geohydrology study	DHS Groundwater Consulting Services, author	February 2022
Public Participation Report	Cape EAPrac	Not yet concluded
Rehabilitation plan	Confluent Environmental (Pty) Ltd., Dr J Dabrowski	March 2022
Stormwater management plan	Zutari, M Botha, A.C. Keyser	March 2022
Botanical study	Regalis Environmental Services CC, Jan Vlok	February 2022
WULA Technical Report/Summary report	Confluent Environmental (Pty) Ltd., S. Jordaan	March 2022

4. Project Description

4.1 Background

In recent years there has been an increased demand for affordable housing in the George Municipal area. With the support of the Government of the Western Cape, Human Settlements, the developer entered into a Land Availability Agreement with them to develop an affordable housing scheme at the Village Ridge.

As mentioned before, the initial layout was approved by the George Municipality Planning and Development Directorate, where after the site was cleared by the developer, but halted by DEA&DP due to excavations and infilling of the wetland flat on Erf 21028, as well as clearing of wetland vegetation adjacent to the Camphersdrift Wetland on Erf 21029. DEA&DP issued a directive to cease construction in the wetland areas and to appoint an aquatic specialist to delineate all watercourses and buffer areas on or adjacent to the site. A further directive from the BGCMA instructed the developer to cease all activities within the regulated area of the watercourse. Given that the entire site was within 500 m of a wetland, this meant that towards the end of August 2021, construction was ceased, pending authorisations from regulating authorities. The definition of the regulated area of a wetland is any area within 500 m of a wetland according to Government Notice 509 of 2016.

A Section 24G application in terms of NEMA was initiated following the clearing of vegetation on Erf 21029 and excavation and partial infill of the wetland flat on Erf 21028 when the unauthorised construction of the housing development had started. A Water Use License would have been required for the clearing and infilling of the wetland flat and for clearing wetland and riparian vegetation adjacent to the Camphersdrift Wetland.

Following the delineation of the wetland and buffer areas, the aquatic specialist recommended the appointment of an amphibian specialist to determine the presence / absence of any Species of Conservation Concern (SCC) in the wetland flat. The amphibian specialist confirmed the presence of a large population of the Endangered Knysna Leaf-folding Frog (*Afrixalus knysnae*) in the wetland.

4.2 Proposed project

The presence of an endangered species in the wetland flat meant that the development needed to be replanned to conserve the habitat and ensure the long-term protection of *A. knysnae*. Wetland buffers were also not included in the original approved layout, and the new Preferred Layout was modified to include these using recommendations from the aquatic and amphibian specialists.

A detailed plan for the Approved and Preferred Layout is in Appendix 1. The initial (approved) layout would have resulted in the loss of the wetland flat by infilling and building over it on Erf 21028 as well as the loss of riparian vegetation adjacent to Camphersdrift Wetland on Erf21029 where houses had been planned. The Preferred Layout excludes or limits any development within the wetland or buffer zones. No housing units may be constructed over the wetland flat or 19 m buffer area, or within the 19 m buffer zone from the Camphersdrift Wetland. The Preferred Layout results in a reduction of residential erven (Table 3). The housing units have also been adjusted to accommodate a green corridor for maintaining connectivity between the Wetland Flat and the Camphersdrift Wetland which aims to facilitate the dispersal of fauna between the two wetland habitats.

Table 3: Summary of sub-divisional zones of the approved and proposed alternative layout for The Village Ridge

Sub-divisional zones	Approved plan	Area (m ²)	Preferred plan	Area (m ²)
Single residential zone 1	99	16 849	95	16 577
General residential zone 3	86	5 995	60	4 035
Business zone 3	3	298	3	304
Community zone 1	1	1 005	0	0
Utility zone (cell phone tower)	1	44	1	69
Open space zone 1	11	5 545	8	6 175
Open space zone 3	0	0	2	7 598
Transport Zone 2	-	15 473	-	10 453
Total area		45 211 m ²		45 210 m ²

4.3 Water uses

The construction of the development takes place within the regulated area, i.e., within 500m of a wetland, therefore all activities undertaken in this project will require a license application as per Section 21 (c) and 21 (i) of the NWA. The activities to be undertaken which will trigger these water uses can be summarised as follows:

21(c): impeding or diverting the flow of water in a watercourse

- Historical infill of the wetland flat (April 2021)
- Partial rehabilitation of the wetland flat and buffer, including the removal of the infill material

21(i): altering the bed, banks, course or characteristics of a watercourse

- Proposed rehabilitation of the wetland flat and buffer
- Proposed rehabilitation of the buffer adjacent to the Camphersdrift Wetland
- Construction of the housing development within 500m of two wetlands

- Upgrade of the existing sewage line along the Northern border of the development from a 110 mm to a 160 mm diameter pipe which connects to the bulk sewer system.
- Replacement of a disused car park with construction of a stormwater attenuation dam/pond in the Camphersdrift Wetland buffer which will discharge to an existing outflow in the wetland below.
- Installation of one new stormwater outflow (energy dissipating headwall) in the Camphersdrift Wetland to the south of the development.

5. Methods statement (only for c and i activity) and mining method/ industrial process

The entire development footprint is within the regulated area of both wetlands as defined by GN 509 of the NWA. Therefore, all construction-related activities involving earthworks and heavy machinery constitute Section 21(c) and 21(i) water uses. Construction methods, typical for a new housing development, would be followed. This would include earth moving, the use of heavy machinery and excavation work to be done to enable the construction of residential accommodation units on erven in an urban area. The constructed buildings will have concrete foundations which will be less than 60 cm for single or multi-storey buildings.

No-go areas have been demarcated as buffers around the wetland flat and the Camphersdrift wetland. Therefore, the development being constructed adjacent to the water resources will have as less an impact on the water resource as possible. The berm around the wetland flat will protect it from surface run-off from the constructed development. The sewage line from the development will be upgraded and connected into an existing municipal bulk sewer system. Detailed stormwater drainage design will protect the water resources at the site during rain or flooding seasons.

Specific method statements for the proposed sewer line upgrade would be similar for the stormwater lines, which can be found in the Aquatic Specialist report along with specific impact mitigation measures.

6. Stormwater Management Plan

The Zutari Stormwater Management Plan provides the description and layout of measures taken to control stormwater in the proposed development (Appendix 2). Plans were provided for both the Approved and Preferred Layouts. The Preferred Layout incorporates a stormwater attenuation dam while the Approved Layout utilises a conventional piped approach, discharging all stormwater into the Camphersdrift Wetland. The proposed stormwater system will consist of a minor, major and emergency system. Minor storms will be managed in the pipe system, while major storms will be routed through linked systems of roads and public open spaces while using attenuation techniques (see section 8.1 below). In the event of storms which are greater than provided for and the minor and major systems fail or in the event where a malfunction may occur, the emergency system will provide continuous overland flow routes to minimise flooding in the residential areas and damage to the Camphersdrift Wetland below the development.

6.1 Proposed drainage

The current stormwater drainage at the site cannot be used, due to the existing road in the development which will need to be rerouted. The current catchment point of the stormwater is the Camphersdrift Wetland, to the East of the property.

The developments' internal stormwater will be designed to follow the natural topography of the site. There will be two stormwater discharge points. In the Preferred Layout, approximately 60% of stormwater from the northern part of the development will drain to a constructed attenuation pond in the old parking area (RE/20958). From here it will slowly discharge through a morning glory pipe

into the existing stormwater outflow in the Camphersdrift Wetland. The remaining stormwater from the southern part of the development will be discharged through a new outflow point to be constructed on the edge of the Camphersdrift Wetland.

The Approved Layout excluded the attenuation pond, discharging all stormwater from the development into the existing and proposed new outflow point in the Camphersdrift Wetland.

6.2 Prevent erosion due to run-off

8.2.1. Operational Phase

Conventional stormwater networks consisting of catch pits, manholes and headwalls will transfer the area's stormwater towards dissipating outlets and the proposed attenuation pond. This will reduce the peak run-off towards the Camphersdrift Wetland if the Preferred Layout is approved.

The run-off from the site will be dispersed to lessen the risk of erosion. The velocity of stormwater is lessened by using energy dissipating structures with Reno mattresses, which creates a high friction factor to reduce the stormwater velocity when it enters the wetland. Reno mattresses and gabion boxes at outlets will help to dissipate energy from the stormwater flow and to trap silt before it reaches the Camphersdrift wetland. In turn the silt trapped on the Reno mattress can act as a growing medium for vegetation, which will help to attenuate further run-off.

By limiting the outflow of large volumes of stormwater through the attenuation pond on RE/20958, lower velocity, sustained flows are released into the Camphersdrift Wetland which carry less of an erosion risk. Accumulated water in the attenuation pond will flow out to the lowest point through a morning glory pipe, and the remaining water will evaporate or seep into the ground. This will allow the overflow to go into an existing stormwater pipe to be dispersed at the existing headwall. This will ensure that the maximum volume of rainwater will flow in a controlled manner to the catchment source point; the Camphersdrift Wetland.

8.2.2 Construction Phase

During construction stormwater management techniques will be implemented to manage the stormwater surface run-off. During construction stormwater management techniques will be implemented to manage the stormwater surface run-off. The management techniques that will be implemented are:

- Temporary cut-off channels and berms
- Routing of run-off towards the existing watercourse and the current drainage routes
- Gabions, Reno mattresses, Geofabric and/or a combination thereof will be used for erosion protection
- Compliance with a site-specific Environmental Management Plan
- The Project Specification and Contract Documents will stipulate how to deal with water in accordance with SABS 1200.

The following recommended mitigation measures from the Aquatic Specialist Report are:

- Where concentrated flows are likely to occur, proactively install any combination of runoff protection utilising silt fencing, hay bale check dams, or sandbag. Silt fencing and hay bales are preferred. Several cut-off channels and berms have failed at the site and should not be relied upon.
- Erosion protection must be initiated prior to commencement of construction and be concentrated along the buffer with the Camphersdrift Wetland to protect the slope from further slippage.
- The Environmental Control Officer (ECO) appointed for the construction phase must monitor the condition of runoff reducing interventions at regular intervals, and especially after rainfall events.

6.3 Prevent pollution

Surface runoff of stormwater into the wetland flat will be prevented as far as possible by constructing a protective vegetated soil berm around it to restrict stormwater runoff from entering it. The green corridor between the wetland flat and the Camphersdrift wetland will allow for possible overflow. Where the road crosses the green corridor, box culverts will be put in place to ensure drainage as well as access across the corridor. Energy dissipation and silt retention structures will be used to prevent pollution. Stormwater catch pits, manholes, energy dissipating headwalls will be installed to route the water into the stormwater outlets. The silt retention structures will minimize peak runoff towards existing detention areas.

The stormwater attenuation dam described in the Preferred Layout has the added benefit of acting as a litter trap prior to water entering the Camphersdrift Wetland. Access to the attenuation dam is far easier than the wetland, making clearing of litter from this location a more feasible maintenance option.

7. Rehabilitation Plan

The Rehabilitation Plan is provided in Section 6 of the Aquatic Specialist report (Confluent Environmental, 2022). The approach to rehabilitate has been divided between pre-construction and post-construction activities for the Preferred Layout option of the development. The Preferred Layout retains wetlands and buffers while the Approved Layout does not. These measures aim to reduce disturbance to habitat, water quality, fauna and flora in wetland areas during the construction phase and operational phase of the proposed development.

7.1 Pre-construction rehabilitation of the Wetland Flat

- Work in the wetland flat may only commence from April to August, outside of the typical amphibian breeding season. On this point, if construction recommences on the site during the breeding season (outside the above timeframe), then work at the site will need to be conducted entirely outside of the delineated buffer until rehabilitation of the wetland flat can commence. In this scenario the rehabilitation would only commence during construction as opposed to pre-construction, but must be implemented as soon as the seasons allow.
- Survey and peg the delineated Wetland Flat area and 19 m buffer.
- The first step will be to remove the large pile of soil that was stockpiled in the buffer south-east of the Wetland Flat. This must be done working in a south-easterly direction, with the minimal footprint of disturbance.
- All soil removed from the site must be stockpiled outside of the buffer zone, making an effort to separate and preserve topsoil.
- Plant rescue should be undertaken for any wetland vegetation (e.g. *Typha*) where possible. This can be used for rehabilitation of disturbed areas in the wetland.
- Using as small an excavator / bobcat as possible, working from the inside out, the second step will be to gently remove the remaining infill in the wetland. This must be done under supervision of an aquatic ecologist using the delineated areas indicated in Figure 3 as a guide. The depth of fill removed must approximate the other side of the wetland so that it isn't significantly deeper or higher by comparison.
- If standing water is present in the wetland during this exercise, it must be protected from excess silt by placing a line of sandbags along the area of infill to be removed. This will reduce the amount of silted water entering clean areas of the wetland. The sandbags can remain in situ for one month while the site stabilises.
- Water quality must be monitored for clarity during this process, and to ensure that the Electrical Conductivity remains within 10% of the reference range of 180 – 220 $\mu\text{S}/\text{cm}$.

- Remove any other significant soil stockpiles in the buffer area using the methods described.
- Reshape the disturbed area to smooth contours.
- Replant disturbed areas in the wetland with any suitable wetland vegetation disturbed during the clearing.
- Use topsoil from the site to build a continuous, gently sloping soil berm approximately 60 cm high which runs along the inside edge of the 19 m buffer. This is in line with recommendations from the amphibian specialist study and aims to ensure stormwater runoff doesn't enter the Wetland Flat during both the construction and operational phases.
- The soil berm should be lightly seeded with Teff grass seed to provide rapid cover during the construction phase.
- Plant rescue of regenerating indigenous terrestrial plants must be undertaken across the remaining site (excluding buffer areas) and plants should be replanted in the buffer and soil berm of the Wetland Flat.
- Finally, temporary fencing must be erected around the outer limit of the soil berm. This will be replaced with permanent fencing during the construction phase.
- Revegetation of disturbed areas of the wetland must be monitored carefully to ensure adequate cover with suitable plants is occurring. Given the site's historical recovery from earthworks, it is anticipated that wetland vegetation will establish rapidly.
- Alien vegetation in the Wetland Flat buffer zone must be cleared by hand, preferably without the use of any herbicides, at least once prior to construction.



Figure 3: Map showing Step 1 and Step 2 soil to be removed from the Wetland Flat and buffer area

7.2 Post-construction rehabilitation

7.2.1 Wetland Flat

- The condition of the Wetland Flat must be re-assessed by an aquatic specialist toward the end of the construction phase to determine the percentage cover and species composition of vegetation in the wetland area and buffer. Based on these findings, the following actions must be taken:
- Actively replant any bare areas in the wetland or buffer area with suitable vegetation. Appropriate species are listed in Table 4.
- The soil berm parallel to the buffer zone must be vegetated with a mix of plants given in Table 4.
- A fence must be erected around the entire perimeter of the wetland buffer with the following specifications:
 - 1.8 m high
 - Mesh size that prevents access by dogs and cats (Max. 900 mm)
 - Dug into the ground approximately 10 cm to prevent animals digging beneath it.
 - Fix a solid barrier 0.6m high from the soil (e.g. irrigation plastic) to the base of the fence to 'funnel' frogs within the wetland to an opening in the barrier aligned to the green corridor. This will encourage frogs to migrate through the fence in this area, reducing their risk of being run over.
 - Single pedestrian entry gate that can be locked
 - Suggested construction should be similar to that indicated in Figure 4. The wetland should be clearly visible beyond the fence, and diamond mesh is recommended on the inside.
 - A continuous border of *Carissa bispinosa* (Forest num num) must be planted along the outside edge of the fence. This thorny but attractive shrub will reduce contact with people and pets, providing protection for the fence.



Figure 4:.. Suggested fencing showing wood lattice for aesthetic appeal, approximate spacing so the wetland is visible, and diamond mesh which must be on the inside of wooden lattice.

- All alien vegetation must be removed from the buffer area by hand, with no use of herbicides. While there are some alien species present in the wetland, these must not be disturbed as they form part of the habitat for *A. knysnae*.
- 5 trees can be planted at random within the buffer to provide some local shade and habitat for birds.
- Signage must be erected on wooden poles inside the fence at the entrance gate explaining the significance of the wetland flat and the reason for restricted access.

7.2.2 Camphersdrift Wetland Buffers

Rehabilitation of the Camphersdrift Wetland buffer will need to be undertaken towards the end of the construction phase. Part of the buffer on the northern portion will be needed for access to upgrade the sewerline and construct the stormwater attenuation dam and can therefore only be rehabilitated once this work is complete.

- Topsoil must be replaced to a depth of at least 50 cm and shaped to natural contours where soil was previously excavated (e.g. old road).
- Topsoil must be obtained on site and must not be mixed with ferricrete.
- The same approach to revegetation in these areas must be followed as per the report compiled for Immediate Mitigation Measures (Confluent Environmental, V3, Jun 2021). In contrast, the area should be lightly seeded with *Eragrostis curvula* and *Teff* as opposed to oats. Active replanting should also be undertaken as the seedbank may be depleted. Suitable species are listed in Table 4. Soil saver matting and silt fencing must be used to reduce the risk of erosion on sloped areas. Planting must take place following the placement of soil saver matting so that holes can be cut into it to accommodate plants.
- Revegetation of the buffer area must aim to achieve 90% cover with vegetation.

7.2.3 Green Corridor

Rehabilitation of the Green Corridor will need to take place midway or towards the end of the construction phase. Once the corridor area is established with structures such as boundary walls and services, and there is no further need for construction vehicles to cross the area, the following steps must be implemented:

- Ensure there is a layer of topsoil along the length of the corridor at least 50 cm deep. This must tie into the buffer adjacent to the Camphersdrift Wetland.
- Profile the corridor with a few very gentle terraces on sloped areas to encourage the pooling of surface runoff during rainfall events.
- Plan replanting of the corridor so that denser more bushy vegetation is staggered and meanders along the corridor, as opposed to being in a straight line along the edges (See below).



- Grassy areas must be seeded with *Cynodon dactylon* (kweek) and shrubby areas must be actively planted with appropriate species listed in Table 4. The aim is for minimal maintenance required with no mowing of grass necessary.

Table 4. Plant species recommended for active

planting in areas requiring rehabilitation

Plant species	Common name	Wetland Flat Buffer	Camphersdrift Wetland Buffer	Green Corridor	Sound damping
<i>Aristea pusilla</i>	-	✓	✓	✓	
<i>Eragrostis curvula</i>	Weeping love grass	✓	✓	✓	
<i>Erica gracilis</i>	Pink bell heather	✓	✓	✓	
<i>Helichrysum petiolare</i>	Licorice plant	✓	✓	✓	
<i>Selago corymbosa</i>	Stiff bitterbush	✓	✓	✓	
<i>Osteospermum moniliferum</i>	Bietou		✓	✓	✓
<i>Gymnosporia buxifolia</i>	Common spikethorn		✓		
<i>Halleria lucida</i>	Tree fuschia	2	✓	✓	✓
<i>Tarconanthus littoralis</i>	Coastal camphor tree	1	✓	✓	✓
<i>Passerina corymbosa</i>	Common cluster-flower gonna	✓	✓	✓	
<i>Rapanea melanophloeos</i>	Cape Beech		✓	✓	✓
<i>Virgilia oroboides</i>	Keurboom			✓	✓
<i>Buddleja salvifolia</i>	Sagewood	2		✓	✓
<i>Afrocarpus falcatus</i>	Outeniqua yellowwood				✓

8. Water Uses applied for

The application includes the following water uses.

Water use activities included in the WULA are listed in Table 5 below.

Table 5: Water Uses Applied for

Water use(s) activities	Purpose	Property Description	Co-ordinates
21(c) impeding or diverting the flow of water in a watercourse			
Rehabilitation of wetland flat and buffer, including the removal of the infill	To re-establish wetland flat	Erf 21028	-33.9593 22.4448
Historical infill of the wetland flat	Approved project would have built over wetland flat	Erf 21028	-33.9593 22.4448
21(i) altering the bed, banks, course or characteristics of a watercourse			
Expand existing sewer line to connect into existing municipal bulk sewer	To link developments' sewage into line to go to the Gwaing WWTW.	Erf 21028 Erf 21029 Erf 21030	-33.9594 22.4470
Rehabilitation of wetland flat and buffer	To maintain wetland habitat in an optimal ecological state.	Erf 21028	-33.9593 22.4449

Water use(s) activities	Purpose	Property Description	Co-ordinates
21(c) impeding or diverting the flow of water in a watercourse			
Rehabilitation of buffer adjacent to Camphersdrift wetland	Prevent erosion from the buffer and maintain ecological connectivity.	Erf21030	-33.9610 22..4461
Construction of housing development within 500m of two wetlands	Development of affordable housing in an urban area.	Erf21028 Erf 21029	-33.3596 22.4457
Upgrade of the sewage line along the Northern border of the development	Upgraded pipeline can accommodate additional sewage from new development.	Erf 21028 Erf 21029	Whole development area
Installation of stormwater pipes, catch pits, manholes and energy dissipating headwalls	Directs stormwater through attenuation structures to reduce erosion, silt discharged and flooding when flowing into Camphersdrift wetland.	Erf 21028 Erf 21029	Whole development area

9. Impacts and mitigation measures

The impact assessment considers the impacts of the two proposed alternative development layouts on aquatic ecosystems associated with the site, namely the wetland flat and Camphersdrift wetland. The impacts and mitigation measures assessed the historically approved layout and subsequently preferred layout. The potential impacts and listed mitigation measures that are expected from the proposed activities are described below.

9.1 Design and Layout Phase

The Preferred Layout was put together using feedback from specialist studies of the site. The current Approved Layout is the one that was submitted with an Applicability Checklist to DEADP who indicated that no listed activities will be triggered and that written authorisation is not required from the authority to commence with activities. This plan was also subsequently then approved by George Municipality Planning and Development Directorate. Unfortunately, the BGCMA was not consulted during this process and the requirement for a WULA, due to the site sensitivities, was only established following the stop-work order. Therefore, the Preferred Layout is the alternative supported from an aquatic specialist perspective. The Approved Layout would not be supported.

9.2 Construction Phase (Applicable to both layouts)

- ✓ An Environmental Control Officer (ECO) must be appointed for the duration of the construction phase and should check on the site at least once per week as well as after rainfall.

Construction vehicles

- ✓ Before construction begins, clearly fence off buffer areas with high visibility, durable material such as posts with orange shade-cloth supported by wire. Shade-cloth must be hammered into the ground with wooden pegs at ground level. Signs must be erected indicating these as 'No-Go' areas.
- ✓ Construction work must be stopped during and following rainfall.
- ✓ Vehicle refuelling must take place at the site offices in an area with sandbags immediately available to contain spills should they occur.
- ✓ All construction vehicles must be checked daily for leaks. Should leaks be detected, the vehicle must be removed from the site until it has been repaired.

Construction staff on site

- ✓ Clean and adequate toilet facilities (at least 1 toilet per 10 workers) must be provided for all staff working on site and must be emptied on a regular basis.
- ✓ Rest areas to be designated for break and lunch times and must include waste disposal (bins) to be cleaned out regularly.
- ✓ All staff to be informed that no waste disposal of litter or construction materials is permitted on the site.
- ✓ All staff to be briefed about designated 'no-go' areas within the wetland flat, Camphersdrift Wetland and associated buffer zones.
- ✓ Staff operating heavy earth moving equipment must be informed that vehicles may not enter 'no-go' areas under any circumstances (other than for specific actions required for rehabilitation purposes).
- ✓ New / casual staff must be briefed as above.

Management of materials

- ✓ Equipment and material laydown areas must be designated before construction works begin. Preferably a level location near the site offices.
- ✓ Concrete or cement mixing is not permitted at or in the vicinity of wetlands or buffer areas. Any cement mixing cannot take place on bare ground. An impermeable or bunded area must be established in a way that cement slurry will not run off with stormwater into the surrounding environment.
- ✓ No waste material from construction must be dumped into wetland or buffer areas, or the surrounding environment. All waste materials must be responsibly disposed of at an appropriate waste disposal facility.
- ✓ Any soil or material stockpiles must be covered with a geotextile or plastic and bunded (e.g. with sand bags) to prevent erosion of the material down slopes into wetland areas.

Sewer line connections in Camphersdrift wetland and buffers

- ✓ Check the weather report for the proposed duration of work. As far as possible there should be no heavy rainfall predicted to occur during installation of the upgraded / new sewer lines.
- ✓ The footprint of disturbance must be demarcated with temporary fencing (e.g. wooden poles with orange netting) to indicate the limit of disturbance.
- ✓ Prior to commencing with excavations, a search and rescue for plants suitable for rehabilitating the slope post-works must be undertaken from within the demarcated area (above).
- ✓ Identify suitable soil stockpiling and sand laydown areas on a level area near the excavation site.
- ✓ Stockpiled materials need to be bunded with sandbags to prevent downslope erosion.
- ✓ Attempt to replace the old pipe (110 mm) with the new pipe (160 mm) by closing off the old pipe and placing the new one at a higher level above the old, decommissioned pipe. This could possibly be achieved with installation of a backdrop structure in the connection manhole. The purpose of this is to reduce the need to dig such a large, deep trench (3 m deep x 16 m wide) thus reducing the footprint of disturbance.
- ✓ Minimise the footprint of disturbance from heavy machinery by excavating the trench with the excavator from one elevated position as far as possible.
- ✓ Once the new pipe has been connected and the trench refilled with soil, the slope will need to be rehabilitated to ensure it does not erode. Topsoil on exposed slopes must be lightly seeded with Teff grass and a light mulch. Soil saver matting must be pegged over the soil and seed mix, followed by establishment of 3 to 4 horizontal silt fences along the slope. Rescued vegetation as well as bought plants suitable for the site must be actively re planted in small holes in the soil saver matting.

Stormwater management during construction

- ✓ Where concentrated flows are likely to occur, proactively install any combination of runoff protection utilising silt fencing, hay bale check dams, or sandbags. Silt fencing and hay bales are preferred. Several cutoff channels and berms have failed at the site and should not be relied upon.

- ✓ Erosion protection must be initiated prior to commencement of construction and be concentrated along the buffer with the Camphersdrift Wetland to protect the slope from further slippage.
- ✓ The Environmental Control Officer (ECO) appointed for the construction phase must monitor the condition of runoff reducing interventions at regular intervals, and especially after rainfall events.

Construction of stormwater infrastructure

- ✓ Check the weather report for the proposed duration of work. As far as possible there should be no heavy rainfall predicted to occur during installation of stormwater infrastructure.
- ✓ The footprint of disturbance must be demarcated with temporary fencing to indicate the limit of disturbance.
- ✓ Prior to commencing with excavations, a search and rescue for plants suitable for rehabilitating the slope post-works must be undertaken from within the demarcated area (above).
- ✓ Remove topsoil first and store separately from subsoils for replacement at conclusion of the works.
- ✓ Paving removed from the road to build the attenuation dam must be disposed of at a suitable facility or reused on the site. No construction rubble or soil may be disposed of down the slope.
- ✓ Identify suitable soil stockpiling and sand laydown areas on a level area near the excavation site.
- ✓ Stockpiled materials need to be bunded with sandbags to prevent downslope erosion.
- ✓ Construction of new outflow structure must be kept as close to the wetland 'edge' as possible to limit disturbance by heavy machinery.
- ✓ At conclusion of construction, all exposed areas of wetland soil must be rehabilitated by revegetation with suitable wetland plants.
- ✓ Soil on the sloped area must be replaced with a final layer of topsoil into which a light cover of grass seed (e.g. Teff) and mulch must be added. Soil saver matting must be pegged over the soil and seed mix, followed by establishment of 3 to 4 horizontal silt fences along the slope. Rescued vegetation as well as bought plants suitable for the site must be actively re planted in small holes in the soil saver matting.

Disruption of the wetland flat hydrology

- ✓ Foundations must be no deeper than 1 mbgl.
- ✓ No artificial groundwater table lowering is allowed.
- ✓ No sub-surface drainage structures may be constructed in association with the development.

Conclusion of construction

- ✓ The site must be cleared of all waste materials, rubble, and debris associated with the construction phase.
- ✓ Alien vegetation must all be cleared from residential, wetland and buffer areas within the site footprint prior to site closure.
- ✓ All drainage structures must be checked to ensure they are free flowing with no blockages.
- ✓ All landforms outside of wetland and buffer areas must be reshaped to ensure they are free draining and do not create concentrated flow paths.
- ✓ There should be no exposed areas of soil. All areas should be revegetated according to the rehabilitation plan.

9.3 Operational Phase

Frog noise

- ✓ Plant as many trees and shrubs as possible in areas of Public Open Space, along roads, and at parking areas in proximity to the buffer of the Wetland Flat. Use species indicated in Table 4.
- ✓ Inform and educate new residents of the likelihood of significant frog noise during the breeding season, and ensure they are aware that any disruption of the wetland or its inhabitants is unlawful.

- ✓ Include a section entitled 'frog noise' on the sign to be erected at the entrance to the Wetland Flat. Ensure the information is informative and encourages tolerance from residents.

Frog deaths due to cars

- ✓ Install a solid barrier along the bottom of the fence approximately 0.6 m high. This could be in the form of green plastic irrigation sheeting secured with cable ties. The barrier should 'funnel' frogs towards a gap in the barrier at the green corridor.
- ✓ Ensure the 'frog tunnel' indicated on the Preferred Layout plan has been installed on the road. Culverts should be sunk approximately 20 cm below the soil ensuring seamless vegetation cover through the tunnels as frogs travel through.
- ✓ Install a sign at the entrance warning drivers to reduce speeds and look out for frogs / toads.
- ✓ Install speed humps either side of the frog crossing, including signage, to slow traffic.

Litter

- ✓ Divert as much stormwater to the attenuation dam as possible as litter is easier to clean up at this point.
- ✓ There are no stormwater inflows permitted to the Wetland Flat, therefore litter would either be blown or thrown into this area. Ensure sufficient public bins are installed and serviced in the Public Open Space areas where they can be easily cleared out on a regular basis by the Municipality.
- ✓ The municipality must undertake routine maintenance of stormwater outflows in the Camphersdrift Wetland which should include clearing litter from the outflow points and ensuring the free flow of water.

Alien vegetation and maintenance of green spaces

- ✓ Alien vegetation clearing must be undertaken in recently planted areas such as the green corridor, Camphersdrift wetland and attenuation dam. Recent disturbance of soil will render these areas highly susceptible to alien encroachment. Follow up clearing should be conducted every 6 months for at least 1 year.
- ✓ Mowing must be restricted to areas designated as public open space within the development only. No mowing must take place within the green corridor or along the buffer adjacent to the Camphersdrift Wetland. Mowing suppresses the growth of new plants and reduces the interception of surface runoff by plants.
- ✓ Unmowed grass and vegetation should be continuous between the Wetland Flat, green corridor, and Camphersdrift buffer so that migrating frogs are not exposed to predation or extreme temperatures.

10. 9. Water demand and water supply

Water demand

A water master plan was drawn up by GLS Consultancy for George Municipality. The purpose was to determine if the existing water network system has sufficient capacity to accommodate The Village Ridge housing development.

According to the Zutari Engineering Services Report, calculations for the water demand of the development were based on the 'Guidelines for Human Settlement Planning and Design'. Table 3 provides the summary of sub-divisional zones of the proposed layout for the Village Ridge. The calculations assumed that all erven will be 200m² or less in size and have an average demand of 400L/day/unit.

Water supply

According to the Zutari Engineering Services Report, potable water supply through the Municipality reticulation system has been approved and the existing network capacity in the vicinity can accommodate The Village Ridge.

There are no upgrades to the water reticulation system required to accommodate The Village Ridge within the existing water distribution system. GLS and Zutari indicated that water reticulation exists within the proposed construction area. All existing services can be rerouted or accommodate future development in the area.

According to the Zutari Engineering Services Report, (Appendix 3), the development falls within the Rooirivier Pump Station sub-drainage area which drains to the Gwaiing Wastewater Treatment Plant (WWTW). The development's wastewater will be treated at the Gwaiing WWTW. A stormwater management plan has been compiled with detailed design to accommodate stormwater from the development. No upgrades to the existing bulk sewage reticulation system are needed, but certain items have been identified as possible upgrades to alleviate existing shortcomings in the reticulation system.

11. Public participation

The public participation process is done in terms of Section 41 (4) of the National Water Act, Act no. 36 of 1998.

The public participation is currently in process and the outcome thereof will be summarised in this report in Table 6.

Table 6: Outcome of the public participation

Person who commented	Comments (support or object)	Reasons for objection	Applicant's response to the objection

10. Other authorisations applicable to the activity

N/A

11. Section 27 (1)

The requirements contained in Section 27(1) of the National Water Act, 1998 (Act 36 of 1998) have been considered and are discussed further below.

a) Existing lawful water uses

Not applicable, as the water use license will be for Section 21c and 21i of the National Water Act, 1998 (Act 36 of 1998). The taking (Section 21a) and storing (Section 21b) are not historical or present water uses on the development site.

b) Need to redress the results of past racial and gender discrimination

The mixed development for low-cost housing on Erven 21028 & 21029, known as The Village Ridge, will contribute to redressing the results of past racial and gender discrimination. It will create work opportunities during the construction phase and opportunities for low-cost housing during the operational phase.

According to the George IDP (Integrated Development Plan) document, one of the five Spatial Development Objectives is to create quality living environments through sustainable urban growth management. This can be done by using strategic vacant land to take up new development demand in urban areas. The livelihood of people will be enhanced while maintaining biodiversity and managing the land on which developments occur.

The proposed project's focus is on using local labour. Therefore, a quarter (25%) of labour used during construction and the operational phase will be sourced locally. The top structures labour and Small, Medium and Micro Enterprise (SMME) subcontractors' cost is estimated to be R16 350 000. Civil engineering and electrical cost of employment is estimated at R1 500 000.

Depending on the skills available, 25% of labour (skilled, semi-skilled and unskilled) would be sourced from the local area, mostly from SMME contractors and local labour. Material suppliers for the project will be largely local suppliers from George and surrounding areas. Local consultants from various specialised fields will be used. This will include a town planner, civil engineering services consultant, electrical design consultant, electrical contractors, sales personnel, landscaping engineers, structural engineers, conveyancer, environmental consultants etc. all sourced locally in the George area. During the project period it is estimated that 25 skilled and 80 unskilled job opportunities will be created. Table 7 indicates the employment opportunities foreseen to be created due to the project. This will allow further economic growth and development for these individuals and businesses, while benefitting their families. With occupation of the development, additional work opportunities will be created by owners who are likely to employ domestic workers, service providers, garden services etc.

Table 7: Opportunities to improve past racial and gender discrimination

	Employment opportunities	Number employed
Temporary work	Basic building skills Earthworks Bricklaying Plaster and painting	75
Permanent work	Business sites	12
Skilled work	Professional	25
Unskilled work	Labour	80
Total		192

The applicant has a Level 1 B-BBEE status, making them an empowering supplier. Their black ownership is 40,5% of which black women ownership is 12.35%.

c) Efficient and beneficial use of water in the public interest

The approved development would have been built over a wetland flat on Erf 21028, resulting in the loss of this habitat and a significant population of *A. knysnae*. However, the preferred layout proposes that the development be built around the wetland flat with a green corridor for improved connectivity between the Wetland Flat and the Camphersdrift Wetland to facilitate the dispersal of fauna between the two wetland habitats. Furthermore, the Preferred Layout accommodates the buffer recommended by the aquatic specialist along the Camphersdrift wetland along the development's boundary. This buffer is at least 35m further away from the Camphersdrift Wetland than neighbouring houses already constructed. This buffer ensures that access to Camphersdrift Wetland is not restricted, and recreational use can still take place.

During the construction phase, temporary erosion control measures to protect the Camphersdrift Wetland from anticipated erosion and sedimentation have been put in place. This was done by means of hay bale check dams, sandbag barriers and silt fencing. All these measures aimed to ensure the efficient and beneficial use of water from this site, reducing potential impacts it might have on downstream watercourses.

George is expanding at a rapid rate; the municipality is the third largest in the Western Cape Province in terms of population. The expansion of George means that urban living space is increasing in demand and therefore more green spaces are being used to develop housing.

The water uses at this development to create low-cost living spaces, will allow for employment opportunities and generate income for the area (see the following section).

d) Socio-economic impact

This development forms part of the Government's Finance Linked Individual Subsidy Program (FLISP), which enables first-time home buyers with lower incomes to get a housing subsidy, allowing them to purchase a home.

Housing for a growing population is becoming increasingly important on a global, national and local level. Building affordable houses not only creates part-time employment during the construction phase, but also ensures permanent work opportunities, which in turn create downstream employment opportunities. as can be seen in Table 8 below. Refer to estimated employment spend below.

Table 8 Employment opportunities

Job opportunities	Number of job opportunities	Type of employment	Affected sectors of the economy
Direct	12 180	Permanent Seasonal/Contract work	Building & construction, Logistics and transport Hairdressing
Indirect	0 4	Permanent Seasonal/Contract work	Caring Entrepreneurs Shops
Total number	196		
Estimated value		R37,500,000***	

*** Contract work (seasonal) employment	= R35,000,000
Permanent work entrepreneurs/shops/transport)	= R280,000 per annum
Local suppliers of materials (direct costs)	= R60,000,000

The total cost expected for this project is ±R150 million over a 3-year period. 25% of the R150 million project spend is on employment. The expected yearly income, either by direct or indirect work being created, is expected to benefit the local George and surrounding areas in the order of R37.5 million for labour and R60 million from local/surrounding material suppliers. Development contributions to George Municipality of ±R5.5 million are foreseen. This can be used to support a range of municipal services.

Socio-economic impacts are expected to be positive, by reducing unemployment within the local municipality of George region, benefitting the local economy as well as living conditions of the community.

Failure of this project to be approved will result in loss of employment opportunities listed in Table 8. The prospect for first time buyers under the FLISP subsidy to improve their living standards in a centrally located development, would also be negated.

The Government of the Western Cape, Human Settlements, supports the development at the Village Ridge. They also stipulated that it is necessary to complete this development in the specified timeframe i.e. by Oct 2023 (pending extension of time following conclusion of environmental outcomes), as it is beneficial to supply sustainable and affordable housing on well-located land in George.

e) Any catchment management strategy applicable to the relevant water resource

The dynamic nature of local, national and global environments constantly presents local government with new challenges and demands. Similarly, the needs and priorities of the local communities within George are ever-changing. This presupposes greater co-ordination and integration with other external stakeholders such as national and provincial government, business community and civil society.

George Municipality's vision, mission and strategic goals stipulates that to be sustainable in the future, development is important while keeping it clean, safe and green, while providing clean water and sanitation through sustainable management.

The Breede-Gouritz Catchment Management Agency (BGCMA) recently concluded an assessment of major rivers in the Water Management Area (DWS, 2018). The Camphersdrift Wetland (River) was not assessed in this report, but the Present Ecological State (PES) for the Gwaing River was determined to be E (Seriously Modified), and the Recommended Ecological Category is to improve the PES to D (Largely Modified). This implies that tributaries of the Gwaing River must not be allowed to degrade beyond their present state. The Preferred Layout has addressed many of the impacts that could have lead to degradation of the Camphersdrift Wetland, by attenuating a large amount of stormwater on the site, implementing buffers along the wetland areas, and rehabilitating wetland and buffer areas.

Application for the water use license and the implementation of associated licensing conditions such that the Reserve and Resource Quality Objectives are met is linked directly to Strategic Area 1 of the BGCMA management strategy:

"Protecting People and Nature as well as sharing for Equity and Development."

The water use license application process has been implemented to ensure that water use activities are authorised in a manner that achieves these broad mission statements, particularly the mission of ensuring healthy water resources and allocating water for all forever.

f) Likely effect of the water use to be authorized on the water resource and on other water users.

The Village Ridge Development will affect wetlands on the development site in different ways. For the wetland flat the preferred development plan would result in the safekeeping of the habitat by building a berm around it as well as the dispersal of fauna to the Camphersdrift wetland through a green corridor. The demarcated buffer zone around the two wetlands will also help to protect the wetland habitat, fauna and flora.

Since the Municipality approved the development (George Municipality, Planning and Development, 4 October 2019), the existing network water system would have been taken into consideration. Therefore, there should be sufficient service capacity to accommodate the proposed housing development.

Stormwater run-off is a factor which can potentially cause harm to the Camphersdrift wetland bordering the development, if not adequately managed. Increased volumes and velocities of stormwater discharging into the wetland have the potential to cause down-cutting and channel incision. However, mitigation factors have been put in place to prevent severe damage to the downstream wetland, by constructing the development outside of the delineated wetland buffers and incorporating the stormwater attenuation dam recommended by the aquatic specialist. Necessary mitigation factors have been put in place by designing the infrastructure to collect and control stormwater run-off on site (attenuation dam) as opposed to the majority being discharged into the wetland itself. Stormwater catch pits, manholes and energy dissipating headwalls will be installed to route the water towards dissipating outlets and the proposed attenuation pond. The silt retention structures will minimize peak runoff towards the Camphersdrift Wetland. The management plan includes stormwater run-off during construction as well as post-construction.

The stormwater servitudes planned between houses ensure there is access to the buffer adjacent to the wetland. This will give downstream water users access to green belt areas near the Camphersdrift Wetland.

g) Class and the resource quality objectives of the water resource

The classification of water resources and the development of Resource Quality Objectives (RQO) for the Breede-Gouritz CMA was finalised in 2018. Erven 21028 & 21029 falls within quaternary catchment K30B, which falls within the G15 Coastal Integrated Unit of Analysis (IUA). The Water Resource Class for this IUA is II, indicating moderate protection and moderate utilisation. The Camphersdrift Wetland is a tributary of the Gwaing River. The Gwaing River falls within the G15 IUA with a Target Ecological Category of E.

RQO's are defined as clear goals (numerical or descriptive statements) relating to the quality of a water resource and are set in accordance to the management class for the resource to ensure the water resource is protected. The purpose of RQO's is to set clear objectives for the resource against which water use licenses and the related impacts can be evaluated and managed to achieve a balance between the need to protect and utilise the resource.

The Breede-Gouritz Catchment Management Agency (BGCMA) recently concluded an assessment of major rivers in the Water Management Area (DWS, 2018). The Camphersdrift Wetland (River) was not thoroughly assessed in this report, but the Aquatic specialist classified the area of the Camphersdrift wetland adjacent to the development area as a PES of C, Moderately Modified. The

Present Ecological State (PES) for the Gwaing River was determined to be E (Seriously Modified), and the Recommended Ecological Category is to improve the PES to D (Largely Modified). The main issues for improvement are to reduce wastewater inflows and clear alien vegetation. The Gwaing River is in a poor state, but the maintenance of inflowing tributaries such as the Camphersdrift Wetland system are critical to maintaining the river's resilience.

h) Investments already made and to be made by the water user in respect of the water use in question

Significant investment has already been made in the acquisition of the property via a performance guarantee by issuing a R12 million guarantee to the Western Cape Government (WCG) for the value of the land. The appointed Civil contractor amounts to ±R12 million and the Electrical contractor ±R3.6 million. The investment made for acquisition of the property, appointment of contractors and various environmental authorisation and planning development processes is more than R22 500 000, made up as follows.

- Land acquisition = R12m allocated via a performance guarantee (time sensitive to perform the Land Availability and Development Agreement with Western Cape Government)
- Professional Consultants fees and Civils & Electrical Contractors = +-R10.5m paid to date

i) Strategic importance of the water use to be authorised

The George Spatial Development Framework (2017) promotes development within the Urban Edge, with 5 Spatial Development Objectives for the municipal area, of which 4 (highlighted in bold) are applicable for this project:

- 1. Restructuring and Integrating the Dysfunctional Urban Fabric**
- 2. Strengthening the Economic Vitality**
- 3. Creating Quality Living Environments**
- 4. Safeguarding the Environmental Integrity and Assets**
- 5. Enhance the Rural Character and Livelihood (Not applicable for this application)**

A Strategic Objective of George Municipality is to facilitate comprehensive rural development plans, while promoting sustainable environmental management as well as public safety.

Reversing of the spatial effects of apartheid by improved quality houses, sustainable human settlements and the enhancement of the environment, can ensure that these objectives are met. George Municipality approves of this development as it will be built in a way to complement the area. It is close to the CBD - allowing access to amenities for lower income people in the community. It promotes an appropriately scaled medium density residential development, which supports the Spatial Planning Objectives of the city, the Province and the Nation. This is also within the goals and objectives of the Spatial Planning and Land Use Management Act (SPLUMA), which aims to redress urban apartheid spatial patterns.

The Strategic Objectives of George Municipality are to develop and grow George, keep it safe, clean and green, provide affordable quality services, have partnership participation, good governance and human capital. The Municipality is a major role player in development planning, where people's needs and priorities must be considered and linked with national guidelines. The development strategies of George Municipality are focused on delivering the expected outcomes of the local development mandate.

As noted earlier, this development forms part of the Government's Finance Linked Individual Subsidy Program (FLISP), which enables first-time home buyers with lower incomes to get a housing subsidy, enabling them to purchase a home. From a strategic point of view these types of developments are

important to enable and empower low-income earners to own their own home. Should this water use be authorised, it will create the opportunity for lower income earners to own their first property.

j) The quality of water in the water resource which may be required for the Reserve and for meeting international obligations

It is not foreseen that there will be a significant impact on downstream water quality or quantity in the Camphersdrift Wetland. This development will not be taking water from the watercourse and George Municipality has sufficient raw water for the development. Therefore the ecological reserve in terms of water quantities is not applicable.

Mitigating measures that have been recommended by the aquatic specialist, including the wetland buffer and on-site stormwater management, aim to ensure that the water quality is maintained in the Camphersdrift wetland during the construction and operational phases.

Mitigating measures recommended by the amphibian and aquatic specialist for the Wetland Flat aim to ensure this habitat is preserved with the primary aim of protecting the Knysna Leaf-folding frog (*A. knysnae*).

k) Probable duration of any undertaking for which a water use is to be authorised

The duration of the water use is permanent.

12. Declaration by the applicant with signature confirming that the information submitted is correct

[END OF WATER USE LICENCE APPLICATION SUMMARY]

Appendices

Appendix 1: Plan for approved and preferred layout

Appendix 2: Zutari Stormwater Management Plan

Appendix 3: Zutari Engineering Services Report