



DRAFT BASIC ASSESSMENT REPORT

for

PACALTSDORP WEST BULK WATER SUPPLY

on

Remainder of Erf 325, Pacaltsdorp, George

In terms of the

National Environmental Management Act (Act No. 107 of
1998, as amended) & 2014 Environmental Impact
Regulations



Prepared for Applicant: George Municipality

Date: 5 September 2023

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Report Reference: GEO723/06

Department Reference: 16/3/3/1/D2/45/0020/23

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PURPOSE OF THIS REPORT:

Draft Basic Assessment Report

APPLICANT:

George Municipality

CAPE EAPRAC REFERENCE NO:

GEO723/06

SUBMISSION DATE

05 September 2023


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DOCUMENT HISTORY

DOC REF	REVISION	DATE	AUTHOR
GEO723/06	Draft Basic Assessment Report	2023-09-05	Mr Francois Byleveld (Candidate EAP 2023/6770)
		Click here to enter a date.	Choose an item.

APPROVAL FOR RELEASE

NAME	TITLE	SIGNATURE
Ms Louise-Mari van Zyl (Primary EAP 2019/1444)	Mrs	

DISTRIBUTION

DESIGNATION	NAME	EMAIL / FAX
Potential Stakeholders	Stakeholder Register	Preferred Communication
George Municipal Office	Mr Lionel Daniels	Electronic Submission
DEA&DP, George	Steve Kleinhans (Case Officer) & Admin Registry	Electronic Submission

DRAFT BASIC ASSESSMENT REPORT

in terms of the
National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended &
Environmental Impact Regulations 2014

PACALTSDORP WEST BULK WATER SUPPLY INFRASTRUCTURE PROJECT

A PORTION OF REMAINDER OF ERF 325, PACALTSDORP

Submitted for:
Stakeholder Review & Comment

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1. CONTENT OF BASIC ASSESSMENT REPORTS

Appendix 1 of the 2014 EIA Regulations (as amended) contains the required contents of a Basic Assessment Report. The checklist below serves as a summary of how these requirements were incorporated into this Basic Assessment Report.

Requirement	Details
<p>(a) <i>Details of -</i></p> <p>(i) <i>The EAP who prepared the report; and</i></p> <p>(ii) <i>The expertise of the EAP, including, curriculum vitae.</i></p> <p>(iii) <i>Applicant Details</i></p>	<p>Author: Mr Francois Byleveld (Candidate EAP 2023/6770)</p> <p>Reviewed By: Ms Louise-Mari van Zyl (Primary EAP 2019/1444)</p> <p>Refer to main report.</p>
<p>(b) <i>The location of the activity, including –</i></p> <p>(i) <i>The 21 digit Surveyor General code of each cadastral land parcel;</i></p> <p>(ii) <i>Where available, the physical address and farm name;</i></p> <p>(iii) <i>Where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties.</i></p>	<p>Remainder of Erf 325, Pacaltsdorp C02700070000032500000</p>
<p>(c) <i>a plan which locates the proposed activity or activities applied for as well as the associated structures and infrastructure at an appropriate scale, or, if it is</i></p> <p>(i) <i>A linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or</i></p> <p>(ii) <i>On land where the property has not been defined, the coordinates within which the activity is to be undertaken.</i></p>	<p>Refer to Appendix A1 and B1 for location and site development plan respectively.</p>
<p>(d) <i>a description of the scope of the proposed activity, including -</i></p> <p>(i) <i>All listed and specified activities triggered and being applied for; and</i></p> <p>(ii) <i>A description of the activities to be undertaken including associated structures and infrastructure.</i></p>	<p>Refer to main report.</p>
<p>(e) <i>A description of the policy and legislative context within which the development is proposed, including –</i></p> <p>(i) <i>An identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report; and</i></p> <p>(ii) <i>How the proposed activity complies with and responds to the legislation and policy context,</i></p>	<p>Refer to main report.</p>

Requirement	Details
<i>plans, guidelines, tools frameworks and instruments.</i>	
<i>(f) A motivation for the need and desirability for the proposed development, including the need and desirability of the activity in the context of the preferred location.</i>	Refer to main report.
<i>(g) A motivation for the preferred site, activity and technology alternative.</i>	Refer to main report.
<p><i>(h) A full description of the process followed to reach the proposed preferred alternative within the site, including -</i></p> <ul style="list-style-type: none"> <i>(i) Details of all alternatives considered;</i> <i>(ii) Details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs;</i> <i>(iii) A summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them;</i> <i>(iv) The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;</i> <i>(v) The impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts: <ul style="list-style-type: none"> <i>(aa) can be reversed;</i> <i>(bb) may cause irreplaceable loss of resources; and</i> <i>(cc) can be avoided, managed or mitigated.</i> </i> <i>(vi) The methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;</i> <i>(vii) Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;</i> <i>(viii) The possible mitigation measures that could be applied and level of residual risk;</i> <i>(ix) The outcome of the site selection matrix;</i> <i>(x) If no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such; and</i> <i>(xi) A concluding statement indicating the preferred alternatives, including preferred location of the activity.</i> 	Refer to main report.
<i>(i) A full description of the process undertaken to identify, assess and rank the impacts the</i>	Refer to main report.

Requirement	Details
<p><i>activity will impose on the preferred location through the life of the activity, including –</i></p> <ul style="list-style-type: none"> <i>(ii) A description of all environmental issues and risks that were identified during the environmental impact assessment process; and</i> <i>(iii) An assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures.</i> 	
<p><i>(j) An assessment of each identified potentially significant impact and risk, including -</i></p> <ul style="list-style-type: none"> <i>(i) Cumulative impacts;</i> <i>(ii) The nature, significance and consequences of the impact and risk;</i> <i>(iii) The extent and duration of the impact and risk;</i> <i>(iv) The probability of the impact and risk occurring;</i> <i>(v) The degree to which the impact and risk can be reversed;</i> <i>(vi) The degree to which the impact and risk may cause irreplaceable loss of resources; and</i> <i>(vii) The degree to which the impact and risk can be mitigated.</i> 	Refer to main report.
<p><i>(k) Where applicable, a summary of the findings and impact management measures identified in any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final assessment report.</i></p>	Refer to main report.
<p><i>(l) An environmental impact statement which contains:</i></p> <ul style="list-style-type: none"> <i>(i) A summary of the key findings of the environmental impact assessment;</i> <i>(ii) A map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers; and</i> <i>(iii) A summary of the positive and negative impacts and risks of the proposed activity and identified alternatives.</i> 	Refer to main report.
<p><i>(m) Based on the assessment, and where applicable, impact management measures from specialist reports, the recording of proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPr.</i></p>	Refer to main report and Appendix H for EMPr.
<p><i>(n) Any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation.</i></p>	Refer to main report.
<p><i>(o) A description of assumptions, uncertainties and gaps in knowledge which relate to the assessment and mitigation measures proposed.</i></p>	Refer to main report.

Requirement	Details
<i>(p) A reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation.</i>	Refer to main report.
<i>(q) Where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required, the date on which the activity will be concluded and the post construction monitoring requirements finalised.</i>	Refer to main report.
<i>(r) An undertaking under oath or affirmation by the EAP in relation to:</i> <i>(i) The correctness of the information provided in the reports;</i> <i>(ii) The inclusion of comments and inputs from stakeholders and I&APs;</i> <i>(iii) The inclusion of inputs and recommendations from the specialist reports where relevant; and</i> <i>(iv) Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties.</i>	Refer to main report.
<i>(s) Where applicable, details of any financial provisions for the rehabilitation, closure and ongoing post decommissioning management of negative environmental impacts.</i>	Not applicable.
<i>(t) Any specific information that may be required by the competent authority.</i>	Not applicable.
<i>(u) Any other matters required in terms of section 24(4)(a) and (b) of the Act.</i>	Not applicable.



BASIC ASSESSMENT REPORT

**THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998) AND
THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS.**

NOVEMBER 2019

(For official use only)	
Pre-application Reference Number (if applicable):	
EIA Application Reference Number:	
NEAS Reference Number:	
Exemption Reference Number (if applicable):	
Date BAR received by Department:	
Date BAR received by Directorate:	
Date BAR received by Case Officer:	

GENERAL PROJECT DESCRIPTION

George Municipality, hereafter referred to as the Applicant, proposes to develop two (2) new water reservoirs, pump station and two (2) water pressure towers on a portion of Remainder of Erf 325 in Pacaltsdorp West. The proposed development site is located near the corner of Beach Road and Olympic Street, behind the existing Pacaltsdorp sport fields (Figure 1).

The proposed development will entail the following infrastructure:

- Two (2) x 14.5ML Water reservoirs.
- One (1) x Pump station.
- One (1) x 1.25ML Pressure tower (max height 35m).
- One (1) x 1.75ML Pressure tower (max height 35m).
- Access roads (4.5m wide) from Olympic Street and Beach Road.
- Fence (480m long and 2.4m high).
- Interconnecting pipelines to existing municipal water infrastructure.
- Stormwater drainage pipes, headwalls and level spreaders.

There is an existing municipal water reservoir (3ML capacity), pump station and water pressure tower (0.34ML capacity) located outside the study area on the north-eastern corner of the Pacaltsdorp sport fields, at the intersection of Olympic Street and Beach Road. The proposed water supply infrastructure will supplement these as part of the greater Municipal water supply network.



Figure 1: Locality map of proposed development site located south of the Pacaltsdorp sport fields (blue circle) with the existing reservoir/pressure tower indicated by the red circle on the corner of Beach Road and Olympic Street (CapeFarmMapper, 2023).

Three (3) possible positions for the proposed development were considered by the project engineers, these are identified in (Figure 2):

Position A: Position A is located within the eastern border of the Pacaltsdorp sport fields. The proposed water reservoirs and associated infrastructure will be connected to the existing municipal water reservoir infrastructure, with pipelines following Beach Road to the north. Position A is located within Open Space Zone II (Figure 3). This position within the Pacaltsdorp sport fields will however limit the future expansion of the municipal water reservoirs and associated infrastructure as well as any sport facilities. Therefore Position A is not preferable and has been eliminated.

Position B: Position B is located on the south-western corner just below and outside the Pacaltsdorp sport fields. The proposed water reservoirs and associated infrastructure will be connected with the existing municipal water reservoir infrastructure with new pipelines following three routes (Appendix M).

- **Route A** (yellow shading, Figure 4):
 - Pipeline A1: diameter = 600mm. Length = ~600m. Route = 270m along the western boundary of the Pacaltsdorp sport fields and 330m along Olympic Street.
 - Pipeline A2: diameter = 300mm. Length = ~600m. Reservation of possible future pipeline following the same route as A1.
- **Route B** (blue shading, Figure 4):
 - Pipeline B1: diameter = 400mm. Length = ~450m. Route = along the southern boundary of the Pacaltsdorp sport fields.
 - Pipeline B2: diameter = 500mm. Length = ~450m. Reservation of future pipeline following the same route as B1. Alternatively, Pipeline B2 will be placed on the western and southern boundary of Erf 7387.
- **Route C** (green shading, Figure 4):
 - Pipeline C1: diameter = 300mm. Length = ~240m. Route = along Beach Road.
 - Pipeline C2: diameter = 300mm. Length = ~200m. Route = along the eastern boundary of Pacaltsdorp sports field (alternative route to C1).
 - Pipeline C3: diameter = 300mm. Length = ~200m. Reservation of possible future pipeline following the same route as C2.

Position B is located in Undetermined Use Zone (Figure 3). 675mm Diameter concrete pipes will convey the flow from outlets and drainage pipes from the overflow chambers to discharge points. The discharge points will be provided with a headwall and energy dissipation measures (level spreaders) to mitigate against localised erosion during scouring and overflows. Reno mattress protection will be installed below the fence line to ensure any overflows do not cause erosion towards the adjacent wetland area.

Position C: Position C is located directly south and adjacent to Olympic Street, outside the Pacaltsdorp sport fields. The proposed water reservoirs and associated infrastructure will be connected to the existing municipal water reservoir with the new pipeline following Olympic Street to the east. Position C is located in Undetermined Use Zone (Figure 3). Although this location is an existing access and is already transformed, the development of potential future new water reservoirs and associated infrastructure at this point is limited due to the presence of the sport field on the one side and high biodiversity / wetland area to the west.

In all instances, the final site location is proposed to be subdivided from the Remainder of Erf 325 and rezoned to Utility Zone. **Position B is the preferred location for this development** based on the outcome of engineering analysis, as well as specialist input in terms of optimal site selection.



Figure 2: Approximate position of all proposed locations for the development of water reservoirs and associated infrastructure. The existing municipal water reservoir and water pressure tower is outlined in orange outside the north-eastern corner of the Pacaltsdorp sport fields (CapeFarmMapper, 2023).



Figure 3: Zoning map of the proposed development site indicating the study site as Undetermined (BROWN) (GeorgeMunicipalityPublicGISViewer, 2023).

IMPORTANT INFORMATION TO BE READ PRIOR TO COMPLETING THIS BASIC ASSESSMENT REPORT

1. **The purpose** of this template is to provide a format for the Basic Assessment report as set out in Appendix 1 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA"), Environmental Impact Assessment ("EIA") Regulations, 2014 (as amended) in order to ultimately obtain Environmental Authorisation.
2. The Environmental Impact Assessment ("EIA") Regulations is defined in terms of Chapter 5 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA") hereinafter referred to as the "NEMA EIA Regulations".
3. The required information must be typed within the spaces provided in this Basic Assessment Report ("BAR"). The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided.
4. All applicable sections of this BAR must be completed.
5. Unless protected by law, all information contained in, and attached to this BAR, will become public information on receipt by the Competent Authority. If information is not submitted with this BAR due to such information being protected by law, the applicant and/or Environmental Assessment Practitioner ("EAP") must declare such non-disclosure and provide the reasons for believing that the information is protected.
6. This BAR is current as of **November 2019**. It is the responsibility of the Applicant/ EAP to ascertain whether subsequent versions of the BAR have been released by the Department. Visit this Department's website at <http://www.westerncape.gov.za/eadp> to check for the latest version of this BAR.
7. This BAR is the standard format, which must be used in all instances when preparing a BAR for Basic Assessment applications for an environmental authorisation in terms of the NEMA EIA Regulations when the Western Cape Government Department of Environmental Affairs and Development Planning ("DEA&DP") is the Competent Authority.
8. Unless otherwise indicated by the Department, one hard copy and one electronic copy of this BAR must be submitted to the Department at the postal address given below or by delivery thereof to the Registry Office of the Department. Reasonable access to copies of this Report must be provided to the relevant Organs of State for consultation purposes, which may, if so indicated by the Department, include providing a printed copy to a specific Organ of State.
9. This BAR must be duly dated and originally signed by the Applicant, EAP (if applicable) and Specialist(s) and must be submitted to the Department at the details provided below.
10. The Department's latest Circulars pertaining to the "One Environmental Management System" and the EIA Regulations, any subsequent Circulars, and guidelines must be taken into account when completing this BAR.
11. Should a water use licence application be required in terms of the National Water Act, 1998 (Act No. 36 of 1998) ("NWA"), the "One Environmental System" is applicable, specifically in terms of the synchronisation of the consideration of the application in terms of the NEMA and the NWA. Refer to this Department's Circular EADP 0028/2014: One Environmental Management System.
12. Where Section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) ("NHRA") is triggered, a copy of Heritage Western Cape's final comment must be attached to the BAR.
13. The Screening Tool developed by the National Department of Environmental Affairs must be used to generate a screening report. Please use the Screening Tool link <https://screening.environment.gov.za/screeningtool> to generate the Screening Tool Report. The screening tool report must be attached to this BAR.
14. Where this Department is also identified as the Licencing Authority to decide on applications under the National Environmental Management: Air Quality Act (Act No. 29 of 2004) ("NEM:AQA"), the submission of the Report must also be made as follows, for-

Waste Management Licence Applications, this report must also (i.e., another hard copy and electronic copy) be submitted for the attention of the Department's Waste Management Directorate (Tel: 021-483-2728/2705 and Fax: 021-483-4425) at the same postal address as the Cape Town Office.

Atmospheric Emissions Licence Applications, this report must also be (i.e., another hard copy and electronic copy) submitted for the attention of the Licensing Authority or this Department's Air Quality Management Directorate (Tel: 021 483 2888 and Fax: 021 483 4368) at the same postal address as the Cape Town Office.

DEPARTMENTAL DETAILS

CAPE TOWN OFFICE: REGION 1 and REGION 2 (Region 1: City of Cape Town, West Coast District) (Region 2: Cape Winelands District & Overberg District)	GEORGE OFFICE: REGION 3 (Central Karoo District & Garden Route District)
<p>BAR must be sent to the following details:</p> <p>Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 1 or 2) Private Bag X 9086 Cape Town, 8000</p> <p>Registry Office 1st Floor Utilities Building 1 Dorp Street, Cape Town</p> <p>Queries should be directed to the Directorate: Development Management (Region 1 and 2) at: Tel: (021) 483 5829 Fax (021) 483 4372</p>	<p>BAR must be sent to the following details:</p> <p>Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 3) Private Bag X 6509 George, 6530</p> <p>Registry Office 4th Floor, York Park Building 93 York Street George</p> <p>Queries should be directed to the Directorate: Development Management (Region 3) at: Tel: (044) 805-8600 Fax (044) 805 8650</p>

MAPS

Provide a location map (see below) as Appendix A1 to this BAR that shows the location of the proposed development and associated structures and infrastructure on the property.	
Locality Map:	<p>The scale of the locality map must be at least 1:50 000. For linear activities or development proposals of more than 25 kilometres, a smaller scale e.g., 1:250 000 can be used. The scale must be indicated on the map.</p> <p>The map must indicate the following:</p> <ul style="list-style-type: none"> • an accurate indication of the project site position as well as the positions of the alternative sites, if any; • road names or numbers of all the major roads as well as the roads that provide access to the site(s) • a north arrow; • a legend; and • a linear scale. <p>For ocean based or aquatic activity, the coordinates must be provided within which the activity is to be undertaken and a map at an appropriate scale clearly indicating the area within which the activity is to be undertaken.</p> <p>Where comment from the Western Cape Government: Transport and Public Works is required, a map illustrating the properties (owned by the Western Cape Government: Transport and Public Works) that will be affected by the proposed development must be included in the Report.</p>
Provide a detailed site development plan / site map (see below) as Appendix B1 to this BAR; and if applicable, all alternative properties and locations.	
Site Plan:	<p>Detailed site development plan(s) must be prepared for each alternative site or alternative activity. The site plans must contain or conform to the following:</p> <ul style="list-style-type: none"> • The detailed site plan must preferably be at a scale of 1:500 or at an appropriate scale. The scale must be clearly indicated on the plan, preferably together with a linear scale. • The property boundaries and numbers of all the properties within 50m of the site must be indicated on the site plan. • On land where the property has not been defined, the co-ordinates of the area in which the proposed activity or development is proposed must be provided. • The current land use (not zoning) as well as the land use zoning of each of the adjoining properties must be clearly indicated on the site plan. • The position of each component of the proposed activity or development as well as any other structures on the site must be indicated on the site plan.

	<ul style="list-style-type: none"> • Services, including electricity supply cables (indicate aboveground or underground), water supply pipelines, boreholes, sewage pipelines, storm water infrastructure and access roads that will form part of the proposed development must be clearly indicated on the site plan. • Servitudes and an indication of the purpose of each servitude must be indicated on the site plan. • Sensitive environmental elements within 100m of the site must be included on the site plan, including (but not limited to): <ul style="list-style-type: none"> ○ Watercourses / Rivers / Wetlands ○ Flood lines (i.e., 1:100 year, 1:50 year and 1:10 year where applicable); ○ Coastal Risk Zones as delineated for the Western Cape by the Department of Environmental Affairs and Development Planning ("DEA&DP"); ○ Ridges; ○ Cultural and historical features/landscapes; ○ Areas with indigenous vegetation (even if degraded or infested with alien species). • Whenever the slope of the site exceeds 1:10, a contour map of the site must be submitted. • North arrow <p>A map/site plan must also be provided at an appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred and alternative sites indicating any areas that should be avoided, including buffer areas.</p>
Site photographs	Colour photographs of the site that shows the overall condition of the site and its surroundings (taken on the site and taken from outside the site) with a description of each photograph. The vantage points from which the photographs were taken must be indicated on the site plan, or locality plan as applicable. If available, please also provide a recent aerial photograph. Photographs must be attached to this BAR as Appendix C . The aerial photograph(s) should be supplemented with additional photographs of relevant features on the site. Date of photographs must be included. Please note that the above requirements must be duplicated for all alternative sites.
Biodiversity Overlay Map:	A map of the relevant biodiversity information and conditions must be provided as an overlay map on the property/site plan. The Map must be attached to this BAR as Appendix D .
Linear activities or development and multiple properties	GPS co-ordinates must be provided in degrees, minutes and seconds using the Hartebeeshoek 94 WGS84 co-ordinate system. Where numerous properties/sites are involved (linear activities) you must attach a list of the Farm Name(s)/Portion(s)/Erf number(s) to this BAR as an Appendix. For linear activities that are longer than 500m, please provide a map with the co-ordinates taken every 100m along the route to this BAR as Appendix A3 .

ACRONYMS

DAFF:	Department of Forestry and Fisheries
DEA:	Department of Environmental Affairs
DEA& DP:	Department of Environmental Affairs and Development Planning
DHS:	Department of Human Settlement
DoA:	Department of Agriculture
DoH:	Department of Health
DWS:	Department of Water and Sanitation
EMPr:	Environmental Management Programme
HWC:	Heritage Western Cape
NFEPA:	National Freshwater Ecosystem Protection Assessment
NSBA:	National Spatial Biodiversity Assessment
TOR:	Terms of Reference
WCBSP:	Western Cape Biodiversity Spatial Plan
WCG:	Western Cape Government

ATTACHMENTS

Note: The Appendices must be attached to the BAR as per the list below. Please use a ✓ (tick) or a x (cross) to indicate whether the Appendix is attached to the BAR.

The following checklist of attachments must be completed.

APPENDIX			✓ (Tick) or x (Cross)
Appendix A:	Maps		
	Appendix A1:	Locality Map	✓
	Appendix A2:	Coastal Risk Zones as delineated in terms of ICMA for the Western Cape by the Department of Environmental Affairs and Development Planning	x
	Appendix A3:	Map with the GPS co-ordinates for linear activities	
Appendix B:	Appendix B1:	Site development plan(s)	✓
	Appendix B2	A map of appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffer areas;	✓
Appendix C:	Photographs		✓
Appendix D:	Biodiversity overlay map		✓
Appendix E:	Permit(s) / license(s) / exemption notice, agreements, comments from State Department/Organs of state and service letters from the municipality.		
	Appendix E1:	Final comment/ROD from HWC	✓
	Appendix E2:	Copy of comment from Cape Nature	x
	Appendix E3:	Final Comment from the DWS	x
	Appendix E4:	Comment from the DEA: Oceans and Coast	x
	Appendix E5:	Comment from the DAFF	x
	Appendix E6:	Comment from WCG: Transport and Public Works	x
	Appendix E7:	Comment from WCG: DoA	x
	Appendix E8:	Comment from WCG: DHS	x
	Appendix E9:	Comment from WCG: DoH	x

	Appendix E10:	Comment from DEA&DP: Pollution Management	X
	Appendix E11:	Comment from DEA&DP: Waste Management	X
	Appendix E12:	Comment from DEA&DP: Biodiversity	X
	Appendix E13:	Comment from DEA&DP: Air Quality	X
	Appendix E14:	Comment from DEA&DP: Coastal Management	X
	Appendix E15:	Comment from the local authority	X
	Appendix E16:	Confirmation of all services (water, electricity, sewage, solid waste management)	X
	Appendix E17:	Comment from the District Municipality	X
	Appendix E18:	Copy of an exemption notice	X
	Appendix E19:	Pre-approval for the reclamation of land	X
	Appendix E20:	Proof of agreement/TOR of the specialist studies conducted.	X
	Appendix E21:	Council Resolution on Rezoning and Subdivision (RE/325)	✓
	Appendix E22:	Proof of public participation agreement for linear activities	X
Appendix F:	Public participation information: including a copy of the register of I&APs, the comments and responses Report, proof of notices, advertisements and any other public participation information as is required.		✓
Appendix G:	Specialist Report(s)		✓
Appendix H:	EMPr		✓
Appendix I:	Screening tool report		✓
Appendix J:	The impact and risk assessment for each alternative (refer to main report)		X
Appendix K:	Need and desirability for the proposed activity or development in terms of this Department's guideline on Need and Desirability (March 2013)/DEA Integrated Environmental Management Guideline (refer to main report)		X
Appendix L:	Proof of application to the Department of Water and Sanitation		✓

SECTION A: ADMINISTRATIVE DETAILS

Highlight the Departmental Region in which the intended application will fall	CAPE TOWN OFFICE:		GEORGE OFFICE:	
	REGION 1 (City of Cape Town, West Coast District)	REGION 2 (Cape Winelands District & Overberg District)	REGION 3 (Central Karoo District & Garden Route District)	
<p>Duplicate this section where there is more than one Proponent</p> <p>Name of Applicant/Proponent:</p> <p>Name of contact person for Applicant/Proponent (if other):</p> <p>Company/ Trading name/State Department/Organ of State:</p> <p>Company Registration Number:</p> <p>Postal address:</p> <p>Telephone:</p> <p>E-mail:</p>	George Municipality			
	Johannes Franciscus Koegelenberg			
	George Municipality			
	PO Box 19			
	George		Postal code:	6530
	044 801 9111		Cell:	
	jkoegelenberg@george.gov.za		Fax:	
Company of EAP:	Cape Environmental Assessment Practitioners (<i>Cape EAPrac</i>)			
Registered EAP name:	Ms Louise-Mari van Zyl			
Candidate EAP name:	Mr Francois Byleveld			
Postal address:	PO Box 2070			
George		Postal code:	6530	
Telephone:	044 874 0365	Cell:	071 603 4132	
Registered EAP E-mail:	louise@cape-eaprac.co.za	Fax:		
Candidate EAP E-mail:	francois@cape-eaprac.co.za			
Qualifications:	MA Geography & Environmental Science (University Stellenbosch) MSc Geology (University of the Free State)			
EAPASA registration no:	<p><u>Report written & compiled by: Mr Francois Byleveld</u> (MSc Geology [University of the Free State]) (Candidate EAPASA Registration Number: 2023/6770) under supervision of the Primary EAP, Ms Louise-Mari van Zyl.</p> <p>Director Louise-Mari van Zyl (MA Geography & Environmental Science [US]; Registered Environmental Assessment Practitioner with the</p>			

	Environmental Assessment Practitioners of South Africa, EAPSA, Registration Number 2019/1444 . Ms van Zyl has over twenty years' experience as an environmental practitioner.		
<p>Duplicate this section where there is more than one landowner</p> <p>Name of landowner:</p> <p>Name of contact person for landowner (if other):</p> <p>Postal address:</p> <p>Telephone:</p> <p>E-mail:</p>	George Municipality		
	Johannes Franciscus Koegelenberg		
	PO Box 19		
	George	Postal code:	6530
	044 801 9111	Cell:	
	jkogelenberg@george.gov.za	Fax:	
<p>Name of Person in control of the land:</p> <p>Name of contact person for person in control of the land:</p> <p>Postal address:</p> <p>Telephone:</p> <p>E-mail:</p>	George Municipality		
	Johannes Franciscus Koegelenberg		
	PO Box 19		
	George	Postal code:	6530
	044 801 9111	Cell:	
	jkogelenberg@george.gov.za	Fax:	
<p>Municipality in whose area of jurisdiction the proposed activity will fall:</p> <p>Contact person:</p> <p>Postal address:</p> <p>Telephone:</p> <p>E-mail:</p>	George Municipality		
	Johannes Franciscus Koegelenberg		
	PO Box 19		
	George	Postal code:	6530
	044 801 9111	Cell:	
	jkogelenberg@george.gov.za	Fax:	

SECTION B: CONFIRMATION OF SPECIFIC PROJECT DETAILS AS INCLUDED IN THE APPLICATION FORM

1.	Is the proposed development (please tick):	New	✓	Expansion	
2.	Is the proposed site(s) a brownfield or greenfield site? Please explain.				
Brownfield site. The proposed development site is degraded, indicating historical dumping and infilling. There is an unnamed gravel road traversing through the proposed development site that provides access to the existing graveyard and sports centrum.					
3.	For Linear activities or developments				
3.1.	Provide the Farm(s)/Farm Portion(s)/Erf number(s) for all routes:				
A portion of Remainder of Erf 325 (West).					
3.2.	Development footprint of the proposed development for all alternatives.				—m ²
1.6ha.					
3.3.	Provide a description of the proposed development (e.g. for roads the length, width and width of the road reserve in the case of pipelines indicate the length and diameter) for all alternatives.				
<p>Access road:</p> <ul style="list-style-type: none"> • Gravel road from Olympic Street: Length = ~260m. Width = 4.5m. • Gravel road from Beach Road: Length = ~430m. Width = 4.5m. <p>Fence:</p> <ul style="list-style-type: none"> • Length = 480m. Height = 2.4m. <p>Pipelines:</p> <ul style="list-style-type: none"> • Route A (yellow shading, Figure 4): <ul style="list-style-type: none"> ○ Pipeline A1: diameter = 600mm. Length = ~600m. Route = 270m along the western boundary of the Pacaltsdorp sport fields and 330m along Olympic Street. ○ Pipeline A2: diameter = 300mm. Length = ~600m. Reservation of possible future pipeline following the same route as A1. • Route B (blue shading, Figure 4): <ul style="list-style-type: none"> ○ Pipeline B1: diameter = 400mm. Length = ~450m. Route = along the southern boundary of the Pacaltsdorp sport fields. ○ Pipeline B2: diameter = 500mm. Length = ~450m. Reservation of future pipeline following the same route as B1. Alternatively, Pipeline B2 will be placed on the western and southern boundary of Erf 7387. • Route C (green shading, Figure 4): <ul style="list-style-type: none"> ○ Pipeline C1: diameter = 300mm. Length = ~240m. Route = along Beach Road. ○ Pipeline C2: diameter = 300mm. Length = ~200m. Route = along the eastern boundary of Pacaltsdorp sport fields (alternative route to C1). ○ Pipeline C3: diameter = 300mm. Length = ~200m. Reservation of possible future pipeline following the same route as C2. 					
3.4.	Indicate how access to the proposed routes will be obtained for all alternatives.				
Via the existing unnamed gravel road leading from <u>Olympic Street</u> along the western boundary of the Pacaltsdorp <u>sport fields</u> (Figure 5 Red Route).					
Via the existing unnamed gravel road leading from <u>Beach Road</u> along the southern boundary of the Pacaltsdorp <u>sport fields</u> passing the <u>Pacaltsdorp Cemetery</u> (Figure 5 Blue Route).					



Figure 5: Access routes to the proposed development site.



Figure 6: Existing access road from Olympic Street past the Pacaltsdorp sport fields (RED line in Figure 5).



Figure 7: Existing road past the Cemetery south of the Pacaltsdorp sport fields (BLUE line in Figure 5).

3.5.	SG Digit codes of the Farms/Farm Portions/Erf numbers for all alternatives	C	0	2	7	0	0	0	7	0	0	0	0	0	3	2	5	0	0	0	0	0
3.6.	Access Roads																					
Starting point co-ordinates for all alternatives (From Olympic Street)																						
Latitude (S)		34°				00'				40.22"												
Longitude (E)		22°				26'				47.64"												
Starting point co-ordinates for all alternatives (From Beach Road)																						
Latitude (S)		34°				00'				50.28"												
Longitude (E)		22°				27'				02.56"												
Middle point co-ordinates for all alternatives (From Olympic Street)																						
Latitude (S)		34°				00'				44.48"												
Longitude (E)		22°				26'				46.59"												
Middle point co-ordinates for all alternatives (From Beach Road)																						
Latitude (S)		34°				00'				49.77"												
Longitude (E)		22°				26'				54.66"												
End point co-ordinates for all alternatives																						
Latitude (S)		34°				00'				48.85"												

	Longitude (E)	22°	26'	46.15"
Pipelines				
Starting point co-ordinates for all alternatives (Route A and B)				
	Latitude (S)	34°	00'	48.85"
	Longitude (E)	22°	26'	46.15"
Starting point co-ordinates for all alternatives (Route C)				
	Latitude (S)	34°	00'	50.11"
	Longitude (E)	22°	27'	02.53"
Middle point co-ordinates for all alternatives (Route A)				
	Latitude (S)	34°	00'	40.51"
	Longitude (E)	22°	26'	47.81"
Middle point co-ordinates for all alternatives (Route B)				
	Latitude (S)	34°	00'	49.71"
	Longitude (E)	22°	26'	54.75"
Middle point co-ordinates for all alternatives (Route C)				
	Latitude (S)	34°	00'	45.67"
	Longitude (E)	22°	27'	01.82"
End point co-ordinates for all alternatives (Route A and C)				
	Latitude (S)	34°	00'	42.34"
	Longitude (E)	22°	27'	00.26"
End point co-ordinates for all alternatives (Route B)				
	Latitude (S)	34°	00'	50.11"
	Longitude (E)	22°	27'	02.53"
Note: For Linear activities or developments longer than 500m, a map indicating the co-ordinates for every 100m along the route must be attached to this BAR as Appendix A3.				
4.	Other developments			
4.1.	Property size(s) of all proposed site(s):			~663ha
4.2.	Developed footprint of the existing facility and associated infrastructure (if applicable):			m ²
4.3.	Development footprint of the proposed development and associated infrastructure size(s) for all alternatives:			~1.6ha
4.4.	Provide a detailed description of the proposed development and its associated infrastructure (This must include details of e.g. buildings, structures, infrastructure, storage facilities, sewage/effluent treatment and holding facilities).			
<p>The applicant proposes to develop two (2) new water reservoirs, pump station and two (2) water pressure towers on a portion of Remainder of Erf 325 in Pacaltsdorp West.</p> <p>The preferred site is located south-west of the Pacaltsdorp sport fields.</p> <p>The existing Municipal reservoir with pressure tower is located on the corner of Beach Road and Olympic Street, bordering the Pacaltsdorp sport fields on the north-eastern corner (Figure 1).</p>				

The proposed development will entail the following infrastructure:

- Two (2) x 14.5ML Water reservoirs.
- One (1) x Pump station.
- One (1) x 1.25ML Pressure tower (max height 35m).
- One (1) x 1.75ML Pressure tower (max height 35m)
- Access roads (4.5m wide) from Olympic Street and Beach Road.
- Fence (480m long and 2.4m high).
- Interconnecting pipelines.
- Stormwater drainage pipes, headwalls and level spreaders.

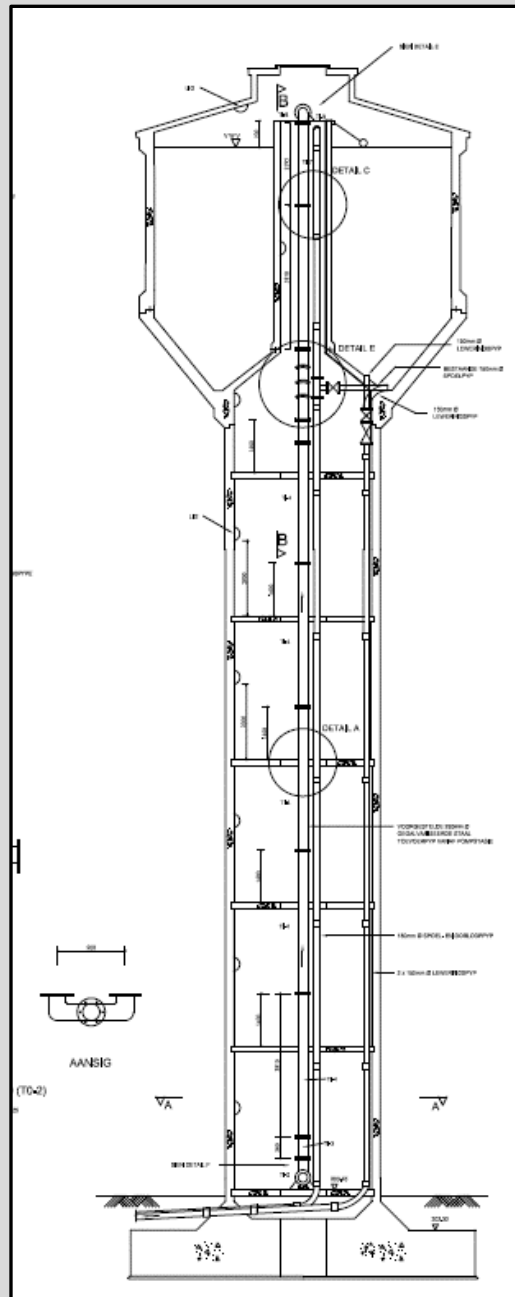


Figure 8: Typical design for side elevation of the water tower which is similar to the existing Municipal Pressure Tower on the corner of Olympic/Beach Roads.

There is an existing municipal water reservoir (3ML capacity), pump station and water pressure tower (0.34ML capacity) located on the north-eastern corner of the Pacaltsdorp sport fields.

Three possible positions for the proposed development are identified (Figure 2):

Position A: Position A is located within the eastern border of the Pacaltsdorp sport fields. The proposed water reservoirs and associated infrastructure will be connected to the existing municipal water reservoir infrastructure, with pipelines following Beach Road to the north. Position A is located within Open Space Zone II (Figure 3). The close proximity of the Pacaltsdorp sport fields will limit the future expansion of the proposed water reservoirs and associated infrastructure as well as any sport facilities. Therefore Position A is not preferable and has been eliminated.

Position B: Position B is located on the south-western corner, outside the Pacaltsdorp sport fields. The proposed water reservoirs and associated infrastructure will be connected with the existing municipal water reservoir infrastructure with new pipelines following three routes.

- **Route A** (yellow shading, Figure 4):
 - Pipeline A1: diameter = 600mm. Length = ~600m. Route = 270m along the western boundary of the Pacaltsdorp sport fields and 330m along Olympic Street.
 - Pipeline A2: diameter = 300mm. Length = ~600m. Reservation of possible future pipeline following the same route as A1.
- **Route B** (blue shading, Figure 4):
 - Pipeline B1: diameter = 400mm. Length = ~450m. Route = along the southern boundary of the Pacaltsdorp sport fields.
 - Pipeline B2: diameter = 500mm. Length = ~450m. Reservation of future pipeline following the same route as B1. Alternatively, Pipeline B2 will be placed on the western and southern boundary of Erf 7387.
- **Route C** (green shading, Figure 4):
 - Pipeline C1: diameter = 300mm. Length = ~240m. Route = along Beach Road.
 - Pipeline C2: diameter = 300mm. Length = ~200m. Route = along the eastern boundary of Pacaltsdorp sport fields (alternative route to C1).
 - Pipeline C3: diameter = 300mm. Length = ~200m. Reservation of possible future pipeline following the same route as C2.

Position B is located in Undetermined Use Zone (Figure 3). 675mm Diameter concrete pipes will convey the flow from outlets and drainage pipes from the overflow chambers to discharge points. The discharge points will be provided with a headwall and energy dissipation measures (level spreaders) to mitigate against localised erosion during scouring and overflows. Reno mattress protection will be installed below the fence line to ensure any overflows do not cause erosion.

Position C: Position C is located on the north-western corner, outside the Pacaltsdorp sport fields. The proposed water reservoirs and associated infrastructure will be connected to the existing municipal water reservoir with the new pipeline following Olympic Street to the east. Position C is located in Undetermined Use Zone (Figure 3). The potential expansion of this facility at this point will be limited due to the existing sports field on the one side and a biodiversity/wetland area to the West.

In all instances, the final site location is proposed to be subdivided from the Remainder of Erf 325 and rezoned to Utility Zone.

Position B is the preferred location for this development based on engineering analysis and specialist input to optimal site selection.

4.5.	Indicate how access to the proposed site(s) will be obtained for all alternatives.
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- Position A:**
- Via the existing unnamed gravel road leading from Beach Road along the southern boundary of the Pacaltsdorp Sports Fields.

Position B:

- Via the existing unnamed gravel road leading from Olympic Street along the western boundary of the Pacaltsdorp Sports Fields (Figure 5 Red Route).
- Via the existing unnamed gravel road leading from Beach Road along the southern boundary of the Pacaltsdorp Sports Fields (Figure 5 Blue Route).

Position C:

- Via the existing unnamed gravel road leading from Olympic Street along the western boundary of the Pacaltsdorp Sports Fields.

A typical cross section of the proposed access roads that will be developed from Olympic Street and Beach Road can be seen in Figure 9.

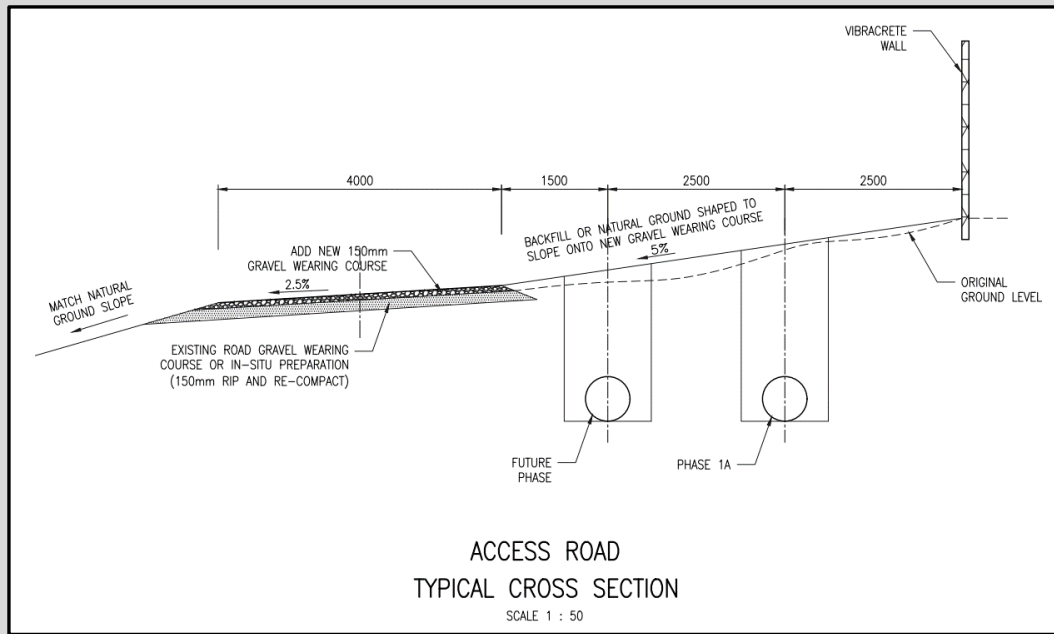


Figure 9: Cross section of proposed access roads to the development site.

4.6.	SG Digit code(s) of the proposed site(s) for all alternatives:	C	0	2	7	0	0	0	7	0	0	0	0	0	3	2	5	0	0	0	0	0	
4.7.	Coordinates of the proposed site(s) for all alternatives:																						
	Position A																						
	Latitude (S)	34°	00'	47.85"																			
Longitude (E)	22°	26'	59.32"																				
	Position B (Preferred Alternative)																						
	Latitude (S)	34°	00'	49.53"																			
	Longitude (E)	22°	26'	45.45"																			
	Position C																						
	Latitude (S)	34°	00'	41.66"																			
Longitude (E)	22°	26'	45.56"																				

SECTION C: LEGISLATION/POLICIES AND/OR GUIDELINES/PROTOCOLS

1. EXEMPTION APPLIED FOR IN TERMS OF THE NEMA AND THE NEMA EIA REGULATIONS

Has exemption been applied for in terms of the NEMA and the NEMA EIA Regulations. If yes, include a copy of the exemption notice in Appendix E18.	YES	NO
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2. IS THE FOLLOWING LEGISLATION APPLICABLE TO THE PROPOSED ACTIVITY OR DEVELOPMENT

The National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008) ("ICMA"). If yes, attach a copy of the comment from the relevant competent authority as Appendix E4 and the pre-approval for the reclamation of land as Appendix E19.	YES	NO
The National Heritage Resources Act, 1999 (Act No. 25 of 1999) ("NHRA"). If yes, attach a copy of the comment from Heritage Western Cape as Appendix E1.	YES	NO
The National Water Act, 1998 (Act No. 36 of 1998) ("NWA"). If yes, attach a copy of the comment from the DWS as Appendix E3.	YES	NO
The National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) ("NEM:AQA"). If yes, attach a copy of the comment from the relevant authorities as Appendix E13.	YES	NO
The National Environmental Management Waste Act (Act No. 59 of 2008) ("NEM:WA")	YES	NO
The National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004 ("NEMBA").	YES	NO
The National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) ("NEMPAA").	YES	NO
The Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983). If yes, attach comment from the relevant competent authority as Appendix E5.	YES	NO

3. OTHER LEGISLATION

List any other legislation that is applicable to the proposed activity or development.
Rezoning in terms of SPLUMA from Undetermined Zone to Utility Zone.

4. POLICIES

Explain which policies were considered and how the proposed activity or development complies and responds to these policies.
<p>4.1 Western Cape Provincial SDF</p> <p>The Western Cape Provincial Spatial Development Framework (PSDF) was approved in 2014 by the Western Cape Parliament and serves as a strategic spatial planning tool that 'communicates the provinces spatial planning agenda'. The PSDF puts in place a coherent framework for the province's urban and rural areas that:</p> <ul style="list-style-type: none"> • Gives spatial expression to national and provincial development agendas. • Serves as basis for coordinated and integrated planning alignment on National and Provincial Department Programmes. • Support municipalities to fulfil their mandates in line with national and provincial agendas. • Communicates government's spatial development agenda. <p>The proposed development compliments the SDF's spatial goals that aim to take the Western Cape on a path towards:</p> <ul style="list-style-type: none"> • Greater productivity, competitiveness and opportunities within the spatial economy; • More inclusive development and strengthening the economy in rural areas;

- Strengthening resilience and sustainable development.

The proposed activity complies with:

1. **Policy R1** (Protect Biodiversity and Ecosystem Services).
2. **Policy E3** (Revitalise and strengthen urban space-economies as the engine of growth).

The proposed design avoids high biodiversity sensitive areas identified in specialist studies.

The proposed activity strengthens the Municipality's ability to provide services to its residents as part of its service delivery mandate.

5. GUIDELINES

List the guidelines which have been considered relevant to the proposed activity or development and explain how they have influenced the development proposal.

5.1. Guideline on Need and Desirability, DEA (2017)

Refer to section E(12) for a detailed Need & Desirability project description.

5.2. Guideline for the Review of Specialist input in the EIA process (June 2005)

The guideline was followed to:

- Ensure that the specialists inputs meet the terms of reference.
- Ensure that specialist inputs are provided in a form and quality that can be incorporated into the integrated report and can be understood by non-specialists.

5.3. Guideline for Environmental Management Plans (June 2005)

The EMPr has been included with this Draft Basic Assessment to provide practical and implementable actions to ensure that the development maintains sustainability and minimise impacts through all its phases. The document is finalised as per the Guidelines and requirements of NEMA.

5.4. Guideline on generic terms of Reference for EAPs and Project Schedules (March 2013)

Followed guidance on:

- Generic Requirements for EAPs (what an EAP must manage).
- Generic Requirements for persons compiling a specialist report.
- Scope of Work (project description, primary responsibility, anticipated inputs etc.).

5.5. Guideline for determining the scope of specialist involvement in the EIA process (June 2005)

This Guideline was used to determine the timing, scope and quality of specialist inputs in the EIA process.

6. PROTOCOLS

Explain how the proposed activity or development complies with the requirements of the protocols referred to in the NOI and/or application form

According to the DEA&DP series of guidelines for the involvement of specialists in the EIA process (2005), one of the underpinning generic principles is to eliminate the unnecessary specialist involvement through proactive project planning and design to avoid or sufficiently reduce negative impacts. Another is to maximise the use of existing relevant information prior to involving a specialist. This includes the input from the EAP and specialists, in the form of site photographs and site inspections. These principles apply to the specialist studies that have been identified in the screening tool and motivated as not necessary in this report.

According to the Screening Tool, the following themes have been identified as sensitive.

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme		X		
Animal Species Theme			X	
Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme	X			
Civil Aviation Theme	X			
Defence Theme				X
Plant Species Theme			X	
Terrestrial Biodiversity Theme	X			

Agriculture Theme (High): The proposed development site is highly transformed and not zoned for Agricultural use. The area is small, with no registered water rights, implying that it is not a feasible agricultural unit despite the Screening Tool indicating it having a high potential. The proposed development site is located adjacent to an existing sports facility and in close proximity of the Pacaltsdorp Cemetery. The sensitivity rating is **refuted** and the EAP is of the opinion that the theme is **not applicable** to this application. Since there is no provision in the Protocols for 'not applicable' the lowest possible rating of 'Low' is selected. It is submitted that an Agricultural Compliance Statement not be undertaken for this theme. The **Department of Agriculture has been approached for comment** as part of the public participation process.

Animal Species Theme (Medium): The proposed development site is highly transformed and the small area of 1.6ha for the proposed activity is unlikely to be considered important fauna habitat. The sensitivity rating is **refuted** and the EAP is of the opinion that the more appropriate sensitivity theme is 'low' due to the transformed nature of the development footprint. A **Terrestrial Animal Species Compliance Statement** was undertaken by Willem Mathee and Professor Jan Venter from Nelson Mandela University. **CapeNature has been approached for comment** as part of the public participation process.

Aquatic Biodiversity Theme (Very High): The proposed development site is located in close proximity to wetlands as well as non-perennial rivers. The sensitivity rating is confirmed and an **Aquatic Biodiversity Impact Assessment** was undertaken by Confluent Consulting. **BOCMA has been approached for comment** as part of the public participation process and the General Authorisation application process.

Archaeological and Cultural Heritage Theme (Very High): Due to the historic and ongoing land use, potential archaeological sites on the property will be out of context by now, thus being of low significance. Development on the proposed development site is unlikely to have a notable impact on a Grade II Heritage site that may be in proximity to the property. Stefan De Kock (Perception Planning) **submitted a Notice of Intent to Develop to Heritage Western Cape**. Heritage Western Cape (HWC) confirmed that **no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required**. HWC is a registered stakeholder on this application process.

Civil Aviation Theme (Very High): The development of water reservoirs and associated infrastructure does not pose a threat to air traffic in terms of any obstruction. There are existing high-mast lights and a similar tall water pressure tower in the immediate surrounding areas, both which are registered with the SACAA confirming them to be **acceptable** and within the SACAA Regulation **parameters**. Since there is no provision in the Protocols for 'not applicable' the lowest possible rating level of 'Low' remains. The structures **will be registered** with SACAA who is a registered stakeholder in this application process.

Defence Theme (Low): The development will pose no threat to military or defence forces of South Africa. The site is not situated near any military facilities. The EAP is of the opinion that the theme

is **not applicable** to this application. Since there is no provision in the Protocols for 'not applicable' the lowest possible rating level of '**Low**' remains. **There are no reasonable grounds to conduct any specialists' studies to affirm this and further consultation with Department of Defence is not necessary.**

Plant Species Theme (Medium): A botanical specialist determined the sensitivity of this theme to be "**Low**" and therefore in terms of the protocol, a **Botanical Compliance Statement** was undertaken. **CapeNature has been approached for comment** as part of the public participation process.

Terrestrial Biodiversity Theme (Very High): The proposed development site is highly transformed and has a small footprint within a much larger vacant property. Confluent Consulting confirmed that a **Terrestrial Biodiversity Compliance Statement** will be sufficient for the proposed development site. Cape Nature is a registered stakeholder on this application process.

Additional protocols identified in the Screening Tool Report:

Landscape/Visual Impact Assessment: The proposed development site is located on an isolated vacant land that will not obstruct the view of surrounding communities. The immediate surrounding areas already contain similar infrastructure such as high-mast lights (Pacaltsdorp sport fields) as well as the existing high-rise municipal water reservoir infrastructure (outside north-eastern corner of Pacaltsdorp sport fields). The proposed development will therefore not result in a significant change in land use compared to the existing surrounding uses. The development of additional municipal water reservoir infrastructures in this particular area is unlikely to deter from the character/value of the greater area and would therefore not require a landscape/visual impact assessment.

Palaeontology Impact Assessment: Due to the historic and ongoing land use, potential palaeontological sites on the property will be out of context by now, thus being of low significance. Stefan De Kock (Perception Planning) **submitted a Notice of Intent to Develop to Heritage Western Cape**. Heritage Western Cape (HWC) confirmed that **no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required**. HWC is a registered stakeholder on this application process.

Hydrological Assessment: During the geotechnical investigation completed by Outeniqua Geotechnical Services (Appendix G7), groundwater was not encountered in any of the test pits with only seasonal groundwater seepage likely to occur in the upper 1.5m of the proposed development site. Groundwater seepage may only affect shallow excavations for construction of foundations and underground services, which will require dewatering and some improvements. A full hydrological assessment is therefore not deemed necessary.

Socio-Economic Assessment: A socio-economic study has not been undertaken for this application mainly due to the small scale, compatibility of the land use with surrounding land uses and alignment with the local spatial planning for the area.

Consideration was given to the following key triggers for a socio-economic impact assessment, as these are stipulated in the Guideline for Social Impact Assessment as drawn up for the Department of Environmental Affairs by Tony Barbour (2007).

The main triggers as stipulated per the Guideline is investigated below:

- Consideration of the nature of the receiving environment, in particular whether vulnerable community, or areas with high poverty/unemployment, or areas where livelihoods depend on existing social relationships and income generating patterns, will be affected;
 - *The study area does not qualify in terms of these characteristics – the proposed development site area forms part of the urban landscape.*

- Areas where access to services, mobility/community networks are affected, or where livelihoods depend on access to and use of environmental resources and services;
 - *The property is not utilised for ecosystem services at a communal scale. Care has been taken to place infrastructure in areas that do not contain sensitive wetland habitat and the remaining natural areas will continue to function as normal.*
- Areas where the proposed land use will alter the sense of place or character of the area, or where the project represents a significant change in land use from the prevailing use;
 - *Development of water reservoir infrastructure, adjacent to the existing Pacaltsdorp sport fields as well as existing municipal water reservoir infrastructure, within an urban context, will not change the character of the area (although the vacant status of the property itself will change) and as such will not result in a significant change in the land use compared to the prevailing urban use;*
- Projects that require large workforce relative to the size of the existing workforce such as dams, railways, roads;
 - *The development will happen in phases with bulk earthworks and civils, followed by reservoirs, pressure towers and pumpstation over an extended period of time, so as to avoid needing a large workforce on the site at any one time.*

Having considered the above-mentioned key triggers that would typically indicate the need for a socio-economic impact assessment to be undertaken to inform decision-making, it was determined that the proposal is not the type of activity (both in nature and in scale) for which such a study is required.

SECTION D: APPLICABLE LISTED ACTIVITIES

List the applicable activities in terms of the NEMA EIA Regulations

Activity No(s):	Provide the relevant Basic Assessment Activity(ies) as set out in Listing Notice 1	Describe the portion of the proposed development to which the applicable listed activity relates.
9	The development of infrastructure exceeding 1000 metres in length for the bulk transportation of water or storm water – (i) with an internal diameter of 0.36 metres or more; or (ii) with a peak throughput of 120 litres per second or more.	The proposed interconnecting pipelines will have an approximate combined length of ~1290m and diameters ranging between 300mm and 600mm.
12	The development of – (ii) infrastructure or structures with a physical footprint of 100 square metres or more; Where such development occurs – (a) within a watercourse; (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse;	The proposed development will have a physical footprint of approximately 1.6ha. Portions of the proposed development will be located within 32m of a watercourse. The proposed development site is located outside the urban area.

	Excluding – (dd) where such development occurs within an urban area.	
27	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation.	According to the Ecosystem Threat Status (2016) map, the proposed development site contains Garden Route Granite Fynbos which is Critically Endangered . The proposed development will entail the clearance of approximately 1.6ha vegetation albeit transformed since past disturbance and the establishment of alien invasive vegetation have caused a loss of any historically occurring fynbos in this area.
Activity No(s):	Provide the relevant Basic Assessment Activity(ies) as set out in Listing Notice 3	Describe the portion of the proposed development to which the applicable listed activity relates.
2	The development of reservoirs, [for bulk water supply] <u>excluding dams</u> , with a capacity of more than 250 cubic metres. i. Western Cape (ii) In areas containing indigenous vegetation.	The proposed development entails the construction of two (2) water reservoirs with a combined capacity of 29ML. According to the Ecosystem Threat Status (2016) map, the proposed development site contains Garden Route Granite Fynbos which is Critically Endangered . Past disturbance and the establishment of alien invasive vegetation have caused a loss of any historically occurring fynbos in this area.
4	The development of a road wider than 4 metres with a reserve less than 13.5m. i. Western Cape (ii) Areas outside urban areas; (aa) Areas containing indigenous vegetation. (iii) Inside urban areas: (aa) Areas zoned for conservation use; or (bb) areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority.	The proposed development entails the upgrade and construction of existing access roads (tracks) to a 4.5m road width. The proposed access roads will follow the route of existing unnamed gravel roads to the west and south of the Pacaltsdorp sport fields.

<p>12</p>	<p>The clearance of an area 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.</p> <p>i. Western Cape</p> <p>(i) Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;</p> <p>(ii) Within critical biodiversity areas identified in bioregional plans.</p>	<p>The proposed development will entail the clearance of approximately 1.6ha vegetation.</p> <p>According to the Ecosystem Threat Status (2016) map, the proposed development site contains Garden Route Granite Fynbos which is Critically Endangered.</p> <p>Past disturbance and the establishment of alien invasive vegetation have caused a loss of any historically occurring fynbos in this area.</p> <p>The proposed development site is located in a designated critical biodiversity area, specifically a Degraded Terrestrial area.</p>
<p>14</p>	<p>The development of –</p> <p>(vi) bulk stormwater outlet structures exceeding 10 square metres in size;</p> <p>Where such development occurs –</p> <p>(c) if no development setback has been adopted, within 32 metres of a watercourse, measures from the edge of a watercourse;</p> <p>i. Western Cape</p> <p>(i) Outside urban areas:</p> <p>(ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.</p>	<p>The proposed development includes two (2) stormwater outlet structures located within 32 metres of a delineated wetland habitat.</p> <p>[In response to the Application the Competent Authority has confirmed that this listed activity is not applicable].</p>
<p>Note:</p> <ul style="list-style-type: none"> • The listed activities specified above must reconcile with activities applied for in the application form. The onus is on the Applicant to ensure that all applicable listed activities are included in the application. If a specific listed activity is not included in an Environmental Authorisation, a new application for Environmental Authorisation will have to be submitted. • Where additional listed activities have been identified, that have not been included in the application form, and amended application form must be submitted to the competent authority. 		

List the applicable waste management listed activities in terms of the NEM:WA

Activity No(s):	Provide the relevant Basic Assessment Activity(ies) as set out in Category A	Describe the portion of the proposed development to which the applicable listed activity relates.

List the applicable listed activities in terms of the NEM:AQA

Activity No(s):	Provide the relevant Listed Activity(ies)	Describe the portion of the proposed development to which the applicable listed activity relates.

SECTION E: PLANNING CONTEXT AND NEED AND DESIRABILITY

1.	Provide a description of the preferred alternative.
<p>The preferred alternative (Figure 10) is to develop two (2) new water reservoirs, pump station and two (2) water pressure towers on a portion of Remainder of Erf 325 in Pacaltsdorp West. The proposed development site is located south-west of the Pacaltsdorp sport fields. The existing Municipal reservoir with pressure tower is located on the corner of Beach Road and Olympic Street, bordering the Pacaltsdorp sport fields on the north-eastern corner (Figure 1).</p> <p>The proposed development will entail the following infrastructure:</p> <ul style="list-style-type: none"> • Two (2) x 14.5ML Water reservoirs. • One (1) x Pump station. • One (1) x 1.25ML Pressure tower (~ 35m high). • One (1) x 1.75ML Pressure tower (~ 35m high). • Access roads (4.5m wide) from Olympic Street and Beach Road. • Fence (480m long and 2.4m high). • Interconnecting pipelines. • Stormwater drainage pipes, headwalls and level spreaders. <p>Position B (preferred location): Position B is located on the south-western corner, outside the Pacaltsdorp sport fields. The proposed water reservoirs and associated infrastructure will be connected with the existing municipal water reservoir infrastructure with new pipelines following three routes.</p> <ul style="list-style-type: none"> • Route A (yellow shading, Figure 4): <ul style="list-style-type: none"> ○ Pipeline A1: diameter = 600mm. Length = ~600m. Route = 270m along the western boundary of the Pacaltsdorp sport fields and 330m along Olympic Street. ○ Pipeline A2: diameter = 300mm. Length = ~600m. Reservation of possible future pipeline following the same route as A1. • Route B (blue shading, Figure 4): <ul style="list-style-type: none"> ○ Pipeline B1: diameter = 400mm. Length = ~450m. Route = along the southern boundary of the Pacaltsdorp sport fields. ○ Pipeline B2: diameter = 500mm. Length = ~450m. Reservation of future pipeline following the same route as B1. Alternatively, Pipeline B2 will be placed on the western and southern boundary of Erf 7387. • Route C (green shading, Figure 4): <ul style="list-style-type: none"> ○ Pipeline C1: diameter = 300mm. Length = ~240m. Route = along Beach Road. ○ Pipeline C2: diameter = 300mm. Length = ~200m. Route = along the eastern boundary of Pacaltsdorp sport fields (alternative route to C1). ○ Pipeline C3: diameter = 300mm. Length = ~200m. Reservation of possible future pipeline following the same route as C2. <p>Position B is located in Undetermined Use Zone (Figure 3). 675mm Diameter concrete pipes will convey the flow from outlets and drainage pipes from the overflow chambers to discharge points. The discharge points will be provided with a headwall and energy dissipation measures (level</p>	

spreaders) to mitigate against localised erosion during scouring and overflows. Reno mattress protection will be installed below the fence line to ensure any overflows do not cause erosion.

The site location is proposed to be subdivided from the Remainder of Erf 325 and rezoned to Utility Zone. **Position B is the preferred location for this development** based on engineering analysis and specialist input to optimal site selection.



Figure 10: Proposed site development plan of preferred alternative (RoyalHaskoningDHV, 2023).

2. Explain how the proposed development is in line with the existing land use rights of the property as you have indicated in the NOI and application form? Include the proof of the existing land use rights granted in Appendix E21.

The applicant proposes to subdivide and rezone the proposed development site from Undetermined Use Zone to Utility Zone for the purpose of accommodating the services.

It is noted however that the property belongs to the Municipality and the zoning Undermined does allow municipal structures and infrastructure as an optional land use.

3. Explain how potential conflict with respect to existing approvals for the proposed site (as indicated in the NOI/and or application form) and the proposed development have been resolved.

4. Explain how the proposed development will be in line with the following?

4.1 The Provincial Spatial Development Framework.

The Western Cape Provincial Spatial Development Framework (PSDF) was approved in 2014 by the Western Cape Parliament and serves as a strategic spatial planning tool that “communicates the provinces spatial planning agenda”. The PSDF puts in place a coherent framework for the province’s urban and rural areas that:

- Gives spatial expression to national and provincial development agendas.

- Serves as basis for coordinated and integrated planning alignment on National and Provincial Department Programmes.
- Support municipalities to fulfil their mandates in line with national and provincial agendas.
- Communicates government's spatial development agenda.

The proposed development compliments the SDF's spatial goals that aim to take the Western Cape on a path towards:

- Greater productivity, competitiveness and opportunities within the spatial economy,
- Strengthening resilience and sustainable development through provision of services.

It is stipulated in the PSDF: *'The supply of potable water from the Western Cape Water Supply System to regional schemes is already highly constrained. Water supply constraints have the potential to constrain development and local economies, impacting on livelihoods, government revenues, etc. The potential for economic growth in the region is inextricably linked to its ability to secure additional water resources'*.

The proposed activity complies with:

1. **Policy R1** (Protect Biodiversity and Ecosystem Services).
2. **Policy E3** (Revitalise and strengthen urban space-economies as the engine of growth).

The proposed design avoids high biodiversity sensitive areas identified in specialist studies. The development is in support of the Municipality's mandate to deliver services to its residents.

4.2 | The Integrated Development Plan of the local municipality.

The Integrated Development Plan (2022) of George Municipality stipulates the following:

*'The Constitution stipulates that every citizen has the right of access to adequate housing and that the state must take reasonable legislative and other measures within its available resources to achieve the progressive realisation of this right. Access to housing also includes access to services such as **potable water**, basic sanitation, safe energy sources and refuse removal services, to ensure that households enjoy a decent standard of living'*.

Due to large potential and existing developments in this part of George, infrastructure upgrades are needed. Therefore the upgrade of potable water supply is urgent considering future residential expansion and continued service delivery and capacity.

4.3. | The Spatial Development Framework of the local municipality.

The Municipal Spatial Development Framework (SDF) of George Municipality stipulated the following:

*'Several land portions are under investigation as possible future housing projects (public and private) for a variety of typologies and income levels, in addition to the projects identified for subsidy housing. The bulk of the current/short-medium term delivery will be accommodated on **Erf 325 along the western boundary of Pacaltsdorp**. Delivery will also be supported through the in-situ/infill housing projects. There is a significant increase (2016-2021) in population (households) in specific urban areas such as Thembaletu, Kraaibosch, **Pacaltsdorp**, and Ballotsview functional areas, although residential growth (densification/uptake) is noticeable in all functional areas.'*

It is therefore evident that due to the future developments planned as well as the significant increase in population in the Pacaltsdorp and surrounding areas, that the capacity of potable water supply will need to be increased in accordance with the Municipality's mandate to deliver services to residents.

4.4. | The Environmental Management Framework applicable to the area.

Not applicable.

5.	Explain how comments from the relevant authorities and/or specialist(s) with respect to biodiversity have influenced the proposed development.
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Aquatic Biodiversity Impact Assessment (Confluent Consulting): The Aquatic Biodiversity Impact Assessment stipulated the following:

- Two wetland habitats were delineated (west and east of the preferred development site) that require careful management to ensure that they are not negatively impacted by the development.
 - Mitigation: The preferred **site selection** as well as **site plan design** was informed by the location of the delineated wetland habitats. The preferred site and SDP avoids both wetland habitats.
- Even though the preferred SDP avoids the delineated wetland habitats, careful management is required to ensure the habitats are not negatively affected by the development.
 - Mitigation: A 21m buffer between the wetland habitats and will be adhered to in the preferred SDP. The proposed fence line will encroach the wetland habitat buffer (21m) but is not considered a major impact. Onsite attenuation of stormwater to reduce the impact on delineated wetland habitats.

If all mitigation measures for the design and layout is adhered to, the proposed development will have a negligible negative impact on aquatic ecosystems.

Terrestrial Animal Species Compliance Statement (Willem Matthee and Prof Jan Venter from Nelson Mandela University): The compliance statement stipulated the following closing recommendations:

- The *Watsonia* present in Position C is likely an important feeding site for pollinators in the area, and should be kept intact.
 - Mitigation: The preferred site location avoids Position C and therefore the *Watsonia* present in Position C will remain intact.
- The wetland habitats and adjacent vegetation should not be disturbed or impacted by the proposed development.
 - Mitigation: A 21m buffer between the wetland habitats and will be adhered to in the preferred SDP. The proposed fence line will encroach the wetland habitat buffer (21m) but is not considered a major impact. Onsite attenuation of stormwater to reduce the impact on delineated wetland habitats.

The preferred SDP and location was identified to specifically avoid the wetland and adjacent vegetation as indicated in the Terrestrial Animal Species Compliance Statement.

Comment From GoGeorge/George Integrated Public Transport Network:

- Due to future widening of Olympic Street and upgrades to the intersection with the proposed mall, Position C is not preferable as it may interfere with future operations.
 - Mitigation: Position C will be avoided and Position B is the preferred location for the proposed development.

6.	Explain how the Western Cape Biodiversity Spatial Plan (including the guidelines in the handbook) has influenced the proposed development.
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The majority of Position B is located in a designated Critical Biodiversity Area, specifically a Degraded Terrestrial Area (**CBA2**). Position C is partially located in the same CBA2 Area.

It is noted that the wetland habitats delineated by Confluent Consulting are not represented in the NFEPA and NWM5 maps according to Cape Farm Mapper.

A small portion of Position C is located in a designated Ecological Support Area (**ESA2**).

According to the Western Cape Biodiversity Spatial Plan:

Critical Biodiversity Area 2

Definition: Areas in a degraded or secondary condition. Required to meet biodiversity targets for species, ecosystems or ecological processes and infrastructure.

Objective: Maintain in a functional, natural or near-natural state, with no further loss of habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land uses are appropriate.

Ecological Support Area 2

Definition: Not essential for meeting biodiversity targets. Important in supporting functioning of PAs or CBAs. Often vital for ecosystem services.

Objective: Restore/minimise impact on ecological infrastructure functioning, especially soil and water-related services.

It is noted that the preferred location (Position B) contains large portions of spontaneously growing alien vegetation along with fill from unlawful dumping. Therefore a large effort will be required to restore the vegetation on the site and would not easily fulfil the objective of CBA2 and ESA2 areas.

The vegetation present on Position C is consistent with the definition of CBA2 and ESA2 areas and could therefore fulfil the objectives of the biodiversity spatial plan of the Western Cape.

In order to align the proposed development with the desired management objectives of the Western Cape Biodiversity Spatial Plan, the site development plan was focussed on the following key points:

- The preferred location (Position B) will minimize the removal of indigenous vegetation.
- The preferred location (Position B) avoids highly sensitive biodiversity areas such as the two wetland areas delineated by the aquatic specialist.
- Stormwater attenuation will take place on site to reduce the risk of influencing the surrounding wetland habitats.

7.	Explain how the proposed development is in line with the intention/purpose of the relevant zones as defined in the ICMA.
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Not applicable.

8.	Explain whether the screening report has changed from the one submitted together with the application form. The screening report must be attached as Appendix I.
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The screening tool report has not changed since the submission of the Application Form.

9.	Explain how the proposed development will optimise vacant land available within an urban area.
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The proposed development site falls outside the urban area.

10.	Explain how the proposed development will optimise the use of existing resources and infrastructure.
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Access to the proposed development site will be from existing public roads (Olympic Street and Beach Road) via existing gravel roads that will be upgraded.

Electricity will be connected into existing municipal services.

11.	Explain whether the necessary services are available and whether the local authority has confirmed sufficient, spare, unallocated service capacity. (Confirmation of all services must be included in Appendix E16).
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The Municipality is building the infrastructure in support of their service provision mandate. The George Water Works is currently being upgraded to provide additional supply. The reservoirs proposed forms part of the Municipal Bulk Water Strategy to store and distribute water.

12.	In addition to the above, explain the need and desirability of the proposed activity or development in terms of this Department's guideline on Need and Desirability (March 2013) or the DEA's Integrated
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Environmental Management Guideline on Need and Desirability. This may be attached to this BAR as Appendix K.

'Need', as defined by DEA&DP, refers to the timing of the proposal and the 'Desirability' refers to the 'placing' of the proposed development.

Need:

The proposed development is in line with all the provincial, district and local development policies. The timing is correct for this development as it will:

- Create employment opportunities during the construction phase;
- Contribute to the economic growth of the town (municipal water supply);
- Increase water supply to the local community, allowing for future expansion of residential areas.
- The provision of storage capacity at this time is aligned with upgrading of the George Water Treatment Works. Once the additional capacity is available, the reservoirs will provide additional storage to supplement the existing storage capacity.

Please also refer to Section E) 4.1., 4.2. and 4.3. for additional information regarding the need for the proposed development.

Desirability:

The proposal is regarded as desirable because the proposed development:

- Is unlikely to impact negatively on existing land use rights of neighbouring property owners;
- It will not prevent any surrounding owner to exercise their legal land use rights;
- Will create employment opportunities during the construction phase.
- The future expansion of local residential areas will increase the demand of water resources.
- Without sufficient storage capacity and designed pressure, water resources cannot be distributed to users in the area.

As stipulated in the PSDF: *'The supply of potable water from the Western Cape Water Supply System to regional schemes is already highly constrained. Water supply constraints have the potential to constrain development and local economies, impacting on livelihoods, government revenues, etc. The potential for economic growth in the region is inextricably linked to its ability to secure additional water resources'*.

Please also refer to Section E) 4.2. and 4.3. for additional information regarding the need for the proposed development.

A detailed comparison between water demand and reservoir capacity is described in more detail in the Engineering Report attached as Appendix G5.

Table 1: Reservoir storage capacity requirements for the Pacaltsdorp water demand (Source: RHDHV).

Development Areas	Households served (No)	Population served * (Persons)	AADD (kℓ/d)	Required reservoir capacity (kℓ)	Required reservoir capacity – Cumulative (kℓ)
Gwayang River Estate (3)	3 854	12 449	1 927	2 891	26 333
Hansmoeskraal (5)	442	1 428	663	995	29 224
Subtotal	9 016	29 125	4 950	7 425	30 218
Total	39 288	126 921	20 145	30 218	

Questions to be engaged with when considering need & desirability:

1. How will this development impact the ecological integrity of the area?

The development will result in a loss of approximately 1.6ha of CBA2 habitat. The proposed development site is not located in a high-risk area such as areas affected by flood lines and steep slopes. The preferred alternative for the proposed development avoids all sensitive wetland habitat areas.

The site is partially isolated from other natural areas and due to the surrounding land use being of an urban nature (Pacaltsdorp sports field and cemetery), ecological fire no longer forms part of the processes necessary to maintain a natural fynbos habitat. The lack of fire, unlawful dumping/infilling and the establishment of alien invasive vegetation have caused a loss of any historically occurring fynbos in this area.

The current state of the preferred development location (Position B) would not be able to easily fulfil the objectives of CBA2 and ESA2 as stipulated in the Western Cape Biodiversity Spatial Plan. All interconnecting pipelines will follow the route of existing walls and unnamed gravel tracks and would therefore not cause any additional disturbance of natural vegetation.

The proposed development will prevent any pollution runoff into the adjacent wetland habitats through implementation of mitigation measures recommended by the aquatic specialist.

2. How will this development enhance ecosystems and/or result in the loss or protection of biological diversity? What measures were explored to avoid negative impacts and enhance positive impacts?

It is noted that the preferred location (Position B) contains large portions of spontaneously growing alien vegetation along with fill from unlawful dumping. Therefore a large effort will be required to restore the vegetation on the site and would not easily fulfil the objective of CBA2 and ESA2 areas.

The proposed development will prevent the loss of biological diversity in the following ways:

- The preferred location (Position B) will minimize the removal of indigenous vegetation.
- The preferred location (Position B) avoids highly sensitive biodiversity areas such as the two wetland areas delineated by the aquatic specialist.
- A 21m aquatic buffer will be adhered to around the two wetland habitats delineated by the aquatic specialist.
- Stormwater attenuation will take place on site to reduce the risk of influencing the surrounding wetland habitats.
- The proposed development will prevent any pollution runoff into the adjacent wetland habitats from unlawfully dump/infill material by preventing vehicular access through placing large rocks along the road verges once upgrades.

3. How will this development pollute and/or degrade the biophysical environment? What measures were explored to avoid or minimise these impacts?

The proposed development will not pollute and/or degrade the biophysical environment. The following measures were explored to avoid or minimise pollution/degradation impacts:

- All No-Go areas/biodiversity sensitive areas will be avoided during construction.
- Construction vehicles will be limited to the already existing unnamed gravel tracks as access to the proposed development site.
- A 21m aquatic buffer around delineated wetland habitats will be adhered to.
- The proposed development will prevent any pollution runoff into the adjacent wetland habitats from unlawfully dump/infill material.
- Stormwater attenuation will take place on site to reduce the risk of influencing the surrounding wetland habitats.

- All general construction waste/rubble which will be removed to the local municipal waste site for building rubble or alternatively the material can be re-used in construction projects of the Municipality where fill material is required.
- Construction phase will be monitored by an aquatic specialist as well as an environmental control officer (ECO).

4. What waste will be generated by this development? Measures to avoid waste?

General construction waste during the development phase of the proposed project. Waste produced during construction will be collected and removed by appointed contractors to a registered waste management facility (records must be kept and provided to the environmental control officer for auditing purposes). Alternatively the material can be re-used in construction projects of the Municipality where fill material is required.

No waste will be generated during the operational phase of the proposed development.

5. How will this development use and/or impact on non-renewable resources?

Municipal electrical distribution network available.

The proposed development make use of water resources during the construction phase but not during the operational phase. Non-treated water must be utilised for construction so as to conserve potable water.

6. How will the ecological impacts resulting from this development, have an impact on people's environmental right in terms of the following:

Negative impact:

- Temporary noise during construction – refer to EMPr for mitigation measures.
- Temporary construction traffic associated with each phase of the development.
- Development of a new structure(s) within the landscape.

Positive impacts:

- Optimise vacant land and temporary job opportunities during construction phase.
- Improve vehicle access to the Pacaltsdorp Cemetery once the access road is upgraded.

Socio-economic impacts:

- Change in character and sense-of-place from an open property to a municipal infrastructure.
- Temporary employment opportunities during the construction phase. Increase in water supply for future residential development.

Positive and negative ecological impacts:

- Result in limited loss of vegetation.
- Sensitive wetland habitats will be avoided.
- Continuous management of alien invasive vegetation within the study site.

7. What is the socio-economic context of the area?

Pacaltsdorp is the oldest residential area of George and accommodates a spectrum of different income groups and areas ranging from medium to low income households. The area contains a number of public facilities including schools, traffic centre, shopping facilities and private residences. Informal settlement is present, however the Municipality and the Provincial Department of Human Settlements embarked on a large scale affordable and social housing project in 2020 to address the housing backlog. Surrounding farms are earmarked for development within the 2022 SDF with less farming activities happening as a result and more property speculation.

SECTION F: PUBLIC PARTICIPATION

The Public Participation Process ("PPP") must fulfil the requirements as outlined in the NEMA EIA Regulations and must be attached as Appendix F. Please note that If the NEM: WA and/or the NEM: AQA is applicable to the proposed development, an advertisement must be placed in at least two newspapers.

- 1. Exclusively for linear activities: Indicate what PPP was agreed to by the competent authority. Include proof of this agreement in Appendix E22.

Not applicable

- 2. Confirm that the PPP as indicated in the application form has been complied with. All the PPP must be included in Appendix F.

Refer to Appendix F for copies of advert, site notices, notifications & stakeholder register. The report will be updated with comments received once the comment period on the DBAR ends.

- Neighbouring property owners were identified using CapeFarmMapper.
- Select neighbouring property owners were compiled into a list sent to the George Municipality for confirmation of contact details to the POPIA.
- Key Authorities were identified according to whether or not they have a mandated interest in the area/site.
- Local Councillor was verified with the George Municipality.
- Site Notices were placed on site calling for I&APs to register and review the DBAR.
- Written notifications were sent to all potential I&APs via email/post informing of the availability of the DBAR and the opportunity to register as an I&AP.
- Advert appeared in the *George Herald* on 31 August 2023 for I&APs to register and submit comment on the DBAR.

Comments received in response to the DBAR or in request to be registered will be considered and added to the Stakeholder Register and all submissions will be incorporated and reflected in the Final Basic Assessment Report.

- 3. Confirm which of the State Departments and Organs of State indicated in the Notice of Intent/application form were consulted with.

The following State Departments and Organs of State were consulted with:

- George Municipality
- Garden Route District Municipality
- Cape Nature
- Department of Transport: Provincial
- Heritage Western Cape
- SACAA
- Department of Agriculture
- BOCMA (Breede-Olifants Catchment Management Agency – Water Affairs)
- Department of Health

- 4. If any of the State Departments and Organs of State were not consulted, indicate which and why.

Department of Defence:

The development will pose no threat to military or defence forces of South Africa. The site is not situated near any military facilities. The EAP is of the opinion that the theme is **not applicable** to this application. Since there is no provision in the Protocols for 'not applicable' the lowest possible

rating level of 'Low' remains. **There are no reasonable grounds to conduct any specialists' studies to affirm this and further consultation with Department of Defence is not necessary.**

5. if any of the State Departments and Organs of State did not respond, indicate which.

To be updated in the Final Basic Assessment Report.

6. Provide a summary of the issues raised by I&APs and an indication of the manner in which the issues were incorporated into the development proposal.

To be updated in the Final Basic Assessment Report.

Note:

A register of all the I&AP's notified, including the Organs of State, and all the registered I&APs must be included in Appendix F. The register must be maintained and made available to any person requesting access to the register in writing.

The EAP must notify I&AP's that all information submitted by I&AP's becomes public information.

Your attention is drawn to Regulation 40 (3) of the NEMA EIA Regulations which states that "*Potential or registered interested and affected parties, including the competent authority, may be provided with an opportunity to comment on reports and plans contemplated in subregulation (1) prior to submission of an application but **must** be provided with an opportunity to comment on such reports once an application has been submitted to the competent authority.*"

All the comments received from I&APs on the pre -application BAR (if applicable and the draft BAR must be recorded, responded to and included in the Comments and Responses Report and must be included in Appendix F.

All information obtained during the PPP (the minutes of any meetings held by the EAP with I&APs and other role players wherein the views of the participants are recorded) and must be included in Appendix F.

Please note that proof of the PPP conducted must be included in Appendix F. In terms of the required "proof" the following is required:

- a site map showing where the site notice was displayed, dated photographs showing the notice displayed on site and a copy of the text displayed on the notice;
- in terms of the written notices given, a copy of the written notice sent, as well as:
 - if registered mail was sent, a list of the registered mail sent (showing the registered mail number, the name of the person the mail was sent to, the address of the person and the date the registered mail was sent);
 - if normal mail was sent, a list of the mail sent (showing the name of the person the mail was sent to, the address of the person, the date the mail was sent, and the signature of the post office worker or the post office stamp indicating that the letter was sent);
 - if a facsimile was sent, a copy of the facsimile Report;
 - if an electronic mail was sent, a copy of the electronic mail sent; and
 - if a "mail drop" was done, a signed register of "mail drops" received (showing the name of the person the notice was handed to, the address of the person, the date, and the signature of the person); and
- a copy of the newspaper advertisement ("newspaper clipping") that was placed, indicating the name of the newspaper and date of publication (of such quality that the wording in the advertisement is legible).

SECTION G: DESCRIPTION OF THE RECEIVING ENVIRONMENT

All specialist studies must be attached as Appendix G.

1. GROUNDWATER

1.1.	Was a specialist study conducted?	YES	NO
1.2.	Provide the name and/or company who conducted the specialist study.		
1.3.	Indicate above which aquifer your proposed development will be located and explain how this has influenced your proposed development.		
1.4.	Indicate the depth of groundwater and explain how the depth of groundwater and type of aquifer (if present) has influenced your proposed development.		

2. SURFACE WATER

2.1.	Was a specialist study conducted?	YES	NO
2.2.	Provide the name and/or company who conducted the specialist study.		
Confluent Consulting. Dr Jackie Dabrowski (aquatic scientist)			
2.3.	Explain how the presence of watercourse(s) and/or wetlands on the property(ies) has influenced your proposed development.		
<p>The preferred development site is located on the watershed between quaternary catchments K30B and K30C in the catchment of the Gwaing River (Figure 11). The preferred development site drains in a westerly direction to K30B. Therefore the erosion of soils and stormwater management are key factors which was carefully considered when planning the development. Stormwater management and attenuation will take place on site in order to reduce the risk of pollution in runoff / erosion towards K30B.</p> <p>According to the National Freshwater Ecosystem Priority Atlas (NFEPA; Nel <i>et al.</i>, 2011) the sub-quaternary reach (SQR 9151) is not classified at any level. The NFEPA wetlands layer (CapeFarmMapper, 2023) does not indicate any wetland features on the proposed development site or immediately downstream. However, the WCBSP (2017) does identify wetland features indicated as ESAs and CBAs as seen in Figure 12, which has also been verified by the aquatic specialist.</p> <p>Two wetland habitat areas were delineated on the proposed development sites named West Wetland and East Wetland for ease of reference (Figure 13). The wetlands were identified as Unchanneled Valley-Bottom Wetlands which are highly sensitive to concentrated, high velocity runoff (typical of piped stormwater outlets) which will result in channel incision, downcutting and erosion of the wetland. The historical infilling and dumping on Position B have resulted in small 'puddles' of standing water.</p> <p>Position C is located within the delineated wetland area and would result in a loss of approximately 0.55ha of wetland habitat and is therefore not supported for the proposed development.</p>			

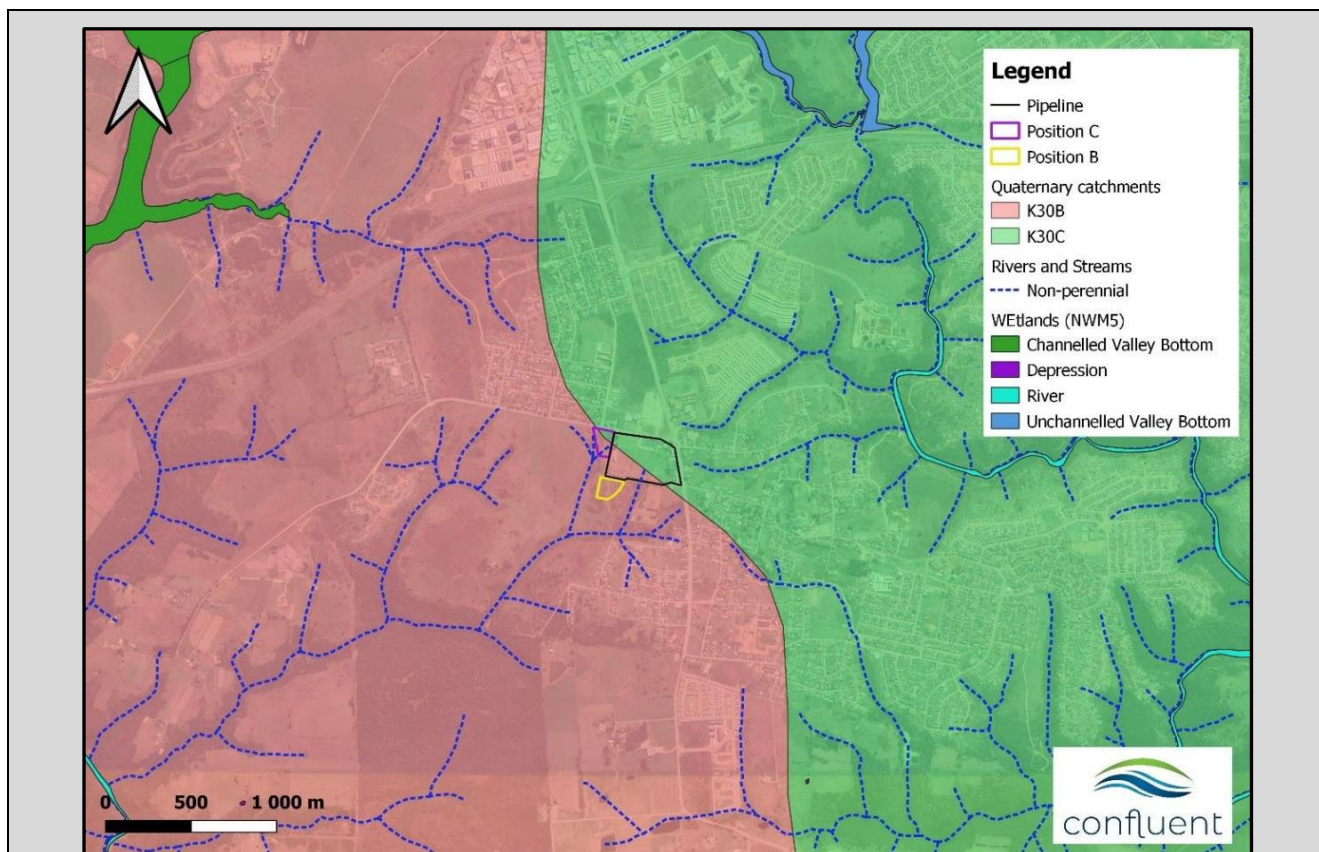


Figure 11: Location of the two alternative development sites on the boundary between quaternary catchments K30B and K30C (Confluent Consulting, 2023).

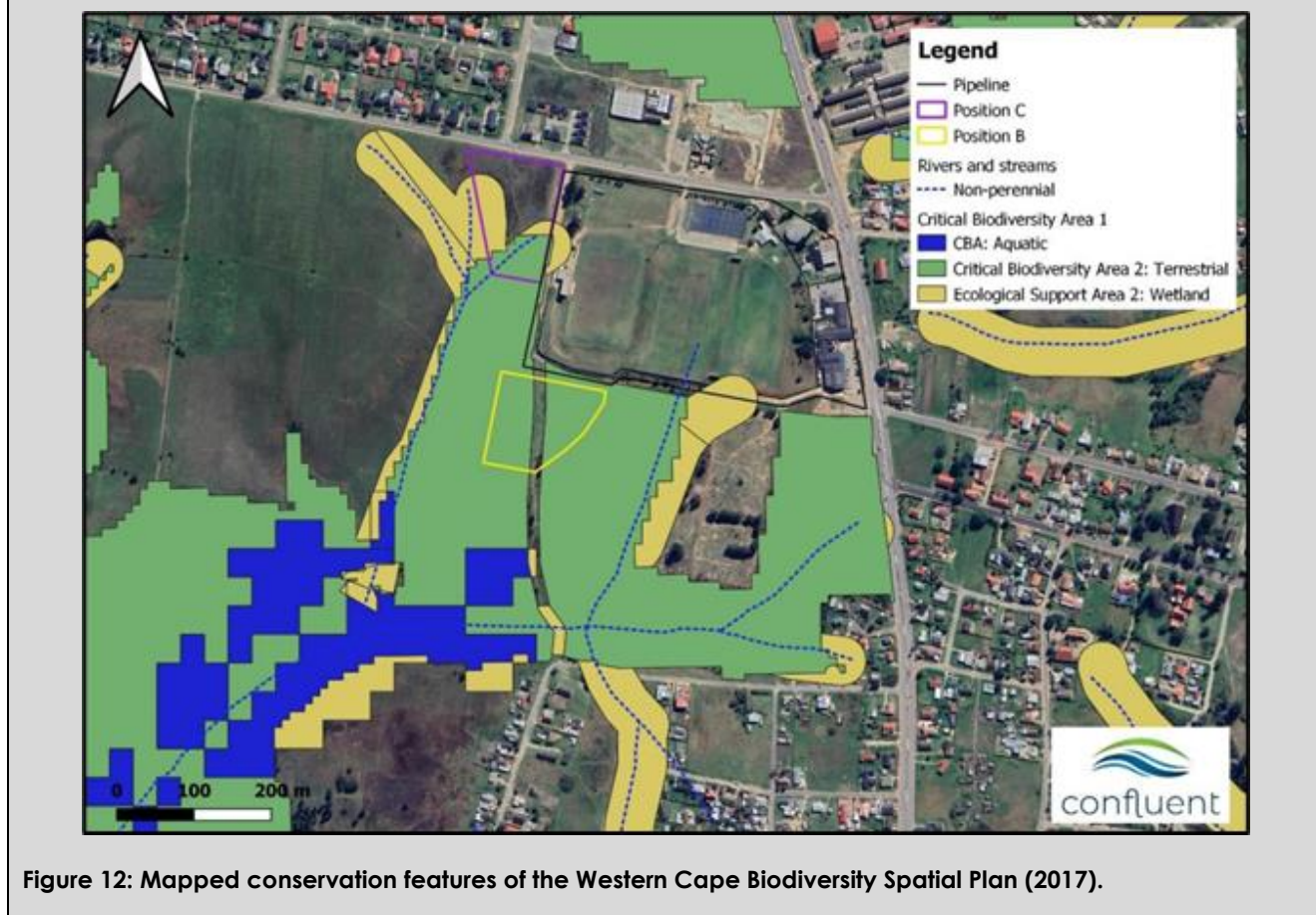


Figure 12: Mapped conservation features of the Western Cape Biodiversity Spatial Plan (2017).

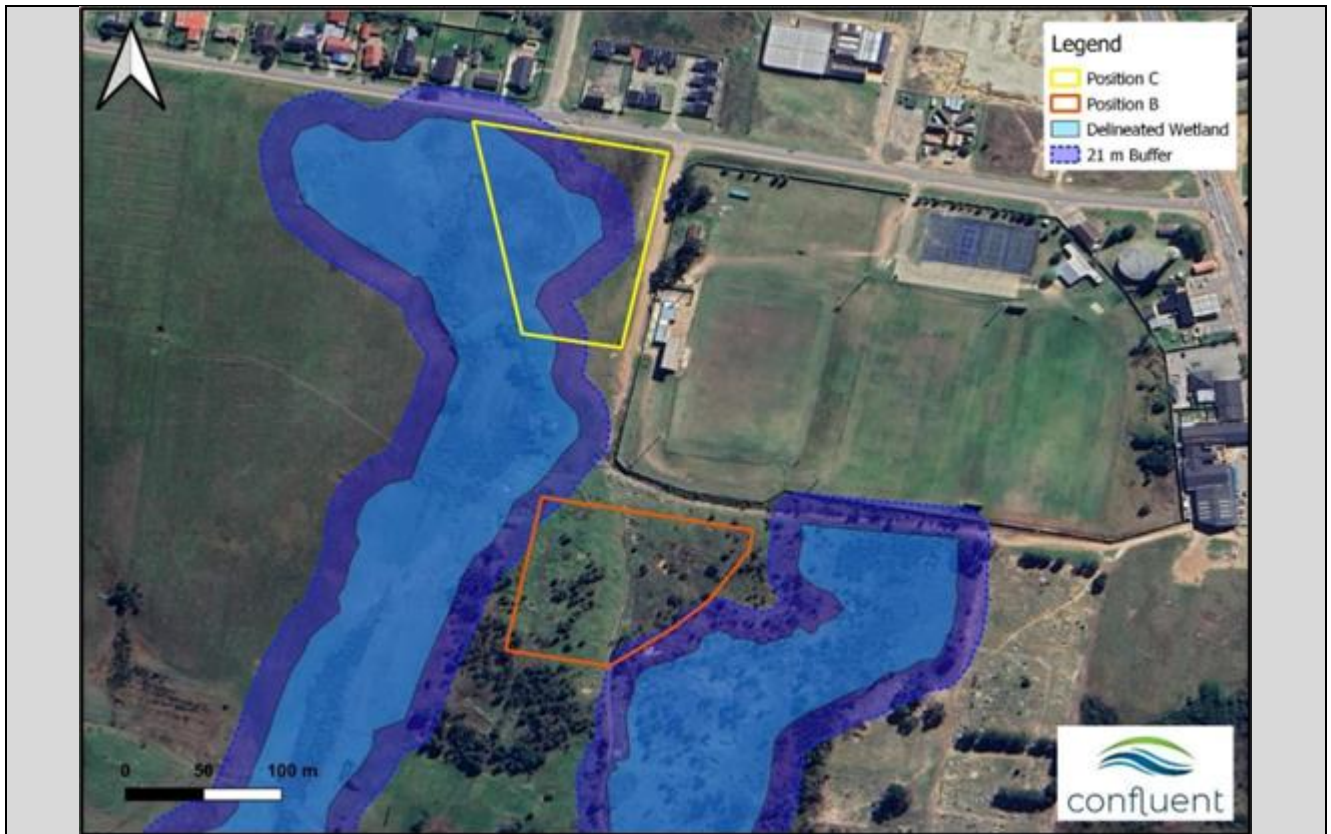


Figure 13: Delineated wetland habitats and 21m wetland buffers in relation to Position B and C (Confluent Consulting, 2023).

The following key points and mitigations influenced the decision on site location as well as proposed development layout:

- Two wetland habitats were delineated (west and east of the preferred development site) that require careful management to ensure that they are not negatively impacted by the development.
 - Mitigation: The preferred site selection and development plan design was informed by the location of the delineated wetland habitats. The preferred SDP avoids both wetland habitats.
- Even though the preferred SDP avoids the delineated wetland habitats, careful management is required to ensure the habitats are not negatively affected by the development.
 - Mitigation: A 21m aquatic buffer between the wetland habitats and will be adhered to in the preferred SDP. The proposed fence line will encroach the wetland habitat buffer (21m) but is not considered a major impact. Onsite attenuation of stormwater to reduce the impact on delineated wetland habitats.

3. COASTAL ENVIRONMENT

3.1.	Was a specialist study conducted?	YES	NO
3.2.	Provide the name and/or company who conducted the specialist study.		
3.3.	Explain how the relevant considerations of Section 63 of the ICMA were taken into account and explain how this influenced your proposed development.		

3.4.	Explain how estuary management plans (if applicable) has influenced the proposed development.
3.5.	Explain how the modelled coastal risk zones, the coastal protection zone, littoral active zone and estuarine functional zones, have influenced the proposed development.

4. BIODIVERSITY

4.1.	Were specialist studies conducted?	YES	NO
4.2.	Provide the name and/or company who conducted the specialist studies.	<p>Confluent Consulting for Botany/Biodiversity. Bianke Fouche (botanist/ecologist).</p> <p>Willem Matthee and Prof Jan Venter from Nelson Mandela University for Fauna (zoologist).</p>	
4.3.	Explain which systematic conservation planning and other biodiversity informants such as vegetation maps, NFEPA, NSBA etc. have been used and how has this influenced your proposed development.	<p>The following key resources were used during the biodiversity studies:</p> <ul style="list-style-type: none"> • The 2018 updated South African National Vegetation Map from SANBIs Biodiversity GIS (BGIS) database, and the National Biodiversity Assessment report of 2018 (Skowno <i>et al.</i>, 2018). • Shapefiles for the Western Cape Biodiversity Spatial Plan (WC-BSP) i.e., information on PAs, CBAs, ESAs, and ONAs were downloaded from BGIS database (CapeNature, 2017; Pool-Sandvliet <i>et al.</i>, 2017). • Cape Farm Mapper for additional spatial information required for the site. • Chief Directorate: National Geo-spatial Information (CD: NGI) Geospatial Portal and Google Earth for the acquisition of historical aerial imagery of the site. • The conservation status of ecosystems was found in the Revised National List of Ecosystems that are Threatened and in need of protection, published under the National Environmental Management: Biodiversity Act (Act No. 10, 2004, as revised in Nov. 2022), and also using The Vegetation of South Africa, Lesotho, and Swaziland (Mucina & Rutherford, 2006). 	
4.4.	Explain how the objectives and management guidelines of the Biodiversity Spatial Plan have been used and how has this influenced your proposed development.	<p>The majority of Position B is located in a designated Critical Biodiversity Area, specifically a Degraded Terrestrial Area (CBA2) (Figure 14). Position C is partially located in the same CBA2 Area.</p> <p>It is noted that the wetland habitats delineated by Confluent Consulting are not represented in the NFEPA and NWM5 maps according to Cape Farm Mapper.</p> <p>A small portion of Potion C is located in a designated Ecological Support Area (ESA2) (Figure 15).</p> <p>According to the Western Cape Biodiversity Spatial Plan:</p> <p>Critical Biodiversity Area 2</p> <p><u>Definition:</u> Areas in a degraded or secondary condition. Required to meet biodiversity targets for species, ecosystems or ecological processes and infrastructure.</p> <p><u>Objective:</u> Maintain in a functional, natural or near-natural state, with no further loss of habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land uses are appropriate.</p> <p>Ecological Support Area 2</p> <p><u>Definition:</u> Not essential for meeting biodiversity targets. Important in supporting functioning of PAs or CBAs. Often vital for ecosystem services.</p>	

Objective: Restore/minimise impact on ecological infrastructure functioning, especially soil and water-related services.

It is noted that the preferred location (Position B) contains large portions of spontaneously growing alien vegetation along with fill from unlawful dumping. Therefore a large effort will be required to restore the vegetation on the site and would not easily fulfil the objective of CBA2 and ESA2 areas.

The vegetation present on Position C is consistent with the definition of CBA2 and ESA2 areas and could therefore fulfil the objectives of the biodiversity spatial plan of the Western Cape.

In order to align the proposed development with the desired management objectives of the Western Cape Biodiversity Spatial Plan, the site development plan was focussed on the following key points:

- The preferred location (Position B) will minimize the removal of indigenous vegetation.
- The preferred location (Position B) avoids highly sensitive biodiversity areas such as the two wetland areas/remnant fynbos areas identified by the specialists.
- Stormwater attenuation will take place on site to reduce the risk of influencing the surrounding wetland habitats.



Figure 14: Critical biodiversity map of the proposed development sites (CapeFarmMapper, 2023).



Figure 15: Ecological Support Area map of the proposed development sites (CapeFarmMapper, 2023).

4.5. Explain what impact the proposed development will have on the site specific features and/or function of the Biodiversity Spatial Plan category and how has this influenced the proposed development.

The following key points were stipulated in the **Terrestrial Biodiversity** and **Botanical** Compliance Statements regarding the impacts on the proposed development site:

Position B (Preferred):

- Large portions of the preferred development site are covered with alien vegetation as well as unlawful infill/dumped material.
- It will be difficult to restore the vegetation on the preferred development site and the location will therefore not easily fulfil the objective of CBA2 or ESA2 areas.
- The proposed development could improve the state of the preferred development site by reducing pollution and erosion.
- The preferred development site was mapped as Garden Route Granite Fynbos with a conservation status of Critically Endangered. However due to past disturbance and the establishment of alien vegetation, historically occurring fynbos have been lost.
- No species of conservation concern (SCC) were identified in the referred development site.
- Due to the factors mentioned above, the Terrestrial Biodiversity Theme sensitivity as well as Botanical Theme sensitivity can be regarded as **Low**.

Position C:

- Vegetation on Position C is consistent with the definition of CBA2 and ESA2 areas.
- Portions of Position C is located within a delineated wetland habitat as well as wetland buffer and is unsuitable for development.
- Position C was mapped as Garden Route Granite Fynbos with a conservation status of Critically Endangered. There is a modified version of this vegetation type present in Position C.
- Position C contains natural fynbos species as well as a *Watsonia* Field which should not be disturbed as it is of relatively high biodiversity value.
- Due to the factors mentioned above as well as that Position C could fulfil the objectives of the Western Cape Biodiversity Spatial Plan by acting as ecological support, the Terrestrial Biodiversity Theme sensitivity can be regarded as **Very High**.

4.6. If your proposed development is located in a protected area, explain how the proposed development is in line with the protected area management plan.

The proposed development is not located within a protected area.

4.7.	Explain how the presence of fauna on and adjacent to the proposed development has influenced your proposed development.
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Terrestrial Animal Species Compliance Statement: Based on the results stipulated in the compliance statement, the sensitivity of the proposed development site in terms of terrestrial animal species can be regarded as having an ecological importance rating of **medium** (protocol rating = Low) based on the following:

- Absence of georeferenced records of any of the seven species of conservation concern (SCC) at or near the development site.
- The lack of suitable habitats for all SCC apart from *A. knysnae*.
- High levels of human disturbance present in the area, making the occurrence of SCC unlikely in the proposed development site.
- The presence of two wetland habitat areas, which may be suitable for *A. knysnae*. The watercourse located adjacent to Position C is potentially more suitable for this species than the wetland habitat located adjacent to Position B.
- Lack of observations of the seven SCC highlighted by the DFFE screening tool, or any other SCC, during the site visit.

The compliance statement stipulated the following closing recommendations:

- The *Watsonia* present in Position C is likely an important feeding site for pollinators in the area, and should be kept intact.
- The wetland habitats and adjacent vegetation should not be disturbed or impacted by the proposed development.

The site development plan was adjusted to avoid the wetland habitat and remnant natural vegetation/habitat as indicated in the Terrestrial Animal Species Compliance Statement. No development is proposed on Position C.

5. GEOGRAPHICAL ASPECTS

Explain whether any geographical aspects will be affected and how has this influenced the proposed activity or development.
No geographical aspects will be affected.

6. HERITAGE RESOURCES

6.1.	Was a specialist study conducted?	YES	NO
6.2.	Provide the name and/or company who conducted the specialist study.	Stefan de Kock (Perception Planning)	
6.3.	Explain how areas that contain sensitive heritage resources have influenced the proposed development.	<p>Stefan De Kock (Perception Planning) submitted a Notice of Intent to Develop to Heritage Western Cape. Heritage Western Cape (HWC) confirmed that no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required. HWC is a registered stakeholder on this application process.</p> <p>In the event that any heritage resources, including evidence of graves and human burials, archaeological material and paleontological material be discovered during the development, all work must be stopped immediately and Heritage Western Cape must be notified without delay.</p>	

7. HISTORICAL AND CULTURAL ASPECTS

Explain whether there are any culturally or historically significant elements as defined in Section 2 of the NHRA that will be affected and how has this influenced the proposed development.

No historical and cultural aspects will be affected.

8. SOCIO/ECONOMIC ASPECTS

8.1. Describe the existing social and economic characteristics of the community in the vicinity of the proposed site.

The proposed development site is bordered by vacant land to the east, south and west. The proposed development site is situated outside the south-western border of the Pacaltsdorp sport fields.

The Pacaltsdorp cemetery is located in close proximity (to the east) to the proposed development site. Private residential properties in the area are associated with the lower income bracket. Properties are of small size with small-medium homes.

The surrounding area is fully serviced and Municipal services are well maintained with a high level of service delivery. Road infrastructure that lead to the proposed access routes of the development is of good condition and maintenance done when required.

Existing municipal water reservoir infrastructure is located in close proximity to the proposed development site (outside the north-eastern corner of Pacaltsdorp sport fields).

The area is an established residential area of mixed income (medium-low) with several communal amenities including schools, traffic centre, shopping facilities, sports facilities etc. The land to the south of Pacaltsdorp is still mostly rural but designated for urban expansion.

Erf 325 East is under construction (nearly complete) with a large scale affordable and social housing undertaken by the Municipality and Provincial Human Settlements in a joint effort.

8.2. Explain the socio-economic value/contribution of the proposed development.

The development of additional municipal utility infrastructure is unlikely to deter from the character/value of the greater area. The surrounding area already contains municipal water reservoir infrastructure and will be supplemented by the proposed development.

The proposed development will contribute to the socio-economic value of George Municipality in the following ways:

- Create temporary employment opportunities during pre-construction and construction phase.
- Create temporary employment opportunities for contractors, small businesses and suppliers during construction and operational phases.
- Increase in the future development capacity of George Municipality and Pacaltsdorp area in particular.
- Ensure that the Municipality can achieve and deliver its mandate of service delivery to local residents.
- Align its current upgrades of to increase water supply, with the necessary upgrades to ensure sufficient storage capacity to accommodate the additional water supply volumes.

8.3. Explain what social initiatives will be implemented by applicant to address the needs of the community and to uplift the area.

The development is proposed as a municipal development. The 'community' in which the site is located is not characterised as impoverished and it is unlikely that community upliftment (projects) are required.

<p>However, the following recommendations are made:</p> <ul style="list-style-type: none"> • Employ minimum 50% local labour (Pacaltsdorp, George, Garden Route, Western Cape – in that order). • Source minimum 50% construction materials locally (Pacaltsdorp, George, Garden Route, Western Cape – in that order). 	
8.4.	<p>Explain whether the proposed development will impact on people's health and well-being (e.g. in terms of noise, odours, visual character and sense of place etc) and how has this influenced the proposed development.</p> <p>Pre-construction and Construction Phase:</p> <ul style="list-style-type: none"> • Minimal noise impact – construction activities will be limited to normal working hours (07:00 – 18:00) with no activities to take place on Sundays and public holidays. • No impact regarding odours. • Minimal dust pollution – construction vehicle movement will be limited to the designated access routes and dust control measures will be put in place. <p>Operational Phase:</p> <ul style="list-style-type: none"> • No noise impact. • No impact regarding odours. • The proposed development could improve the state of the preferred development site by reducing pollution and unlawful dumping/infilling.

SECTION H: ALTERNATIVES, METHODOLOGY AND ASSESSMENT OF ALTERNATIVES

1. DETAILS OF THE ALTERNATIVES IDENTIFIED AND CONSIDERED

1.1.	<p>Property and site alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.</p> <p>Provide a description of the preferred property and site alternative.</p> <p>The preferred position (Position B) is located on a portion of the Remainder of Erf 325 and is situated on the south-western corner, outside the Pacaltsdorp Sports Fields (Figure 2 Position B). The proposed water reservoirs and associated infrastructure will be connected with the existing municipal water reservoir infrastructure with new pipelines following three routes around the Pacaltsdorp sport fields (Figure 4).</p> <p>Provide a description of any other property and site alternatives investigated.</p> <p>Position A (Eliminated)</p> <p>This alternative site location is marked Position A on Figure 2 and is located within the eastern border of the Pacaltsdorp sport fields. The proposed water reservoirs and associated infrastructure will be connected to the existing municipal water reservoir infrastructure with pipelines following Beach Road to the north. The close proximity of the Pacaltsdorp sport fields will limit the future expansion of the proposed water reservoirs and associated infrastructure as well as any sports facilities. Therefore Position A is not preferable and eliminated.</p> <p>Position C</p> <p>This alternative site location is marked Position C on Figure 2 and is located on the north-western corner, outside the Pacaltsdorp sport fields. The proposed water reservoirs and associated infrastructure will be connected to the existing municipal water reservoir infrastructure with the new pipeline following Olympic Street to the east. Position C is located within a delineated wetland habitat and the vegetation is representative of Garden Route Granite Fynbos vegetation that has a conservation status</p>
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of Critically Endangered. Position C could fulfil the objectives of CBA2 and ESA2 areas as stipulated in the Western Cape Biodiversity Spatial Plan. The development of new water reservoirs and associated infrastructure will limit future expansion of Olympic Street and is therefore **not preferable/eliminated**.

Provide a motivation for the preferred property and site alternative including the outcome of the site selection matrix.

The preferred site (**Position B**) was identified as the most preferable location taking into account the following aspects:

- It is an isolated portion of land with low development potential.
- It has low accessibility for the public from both Beach Road and Olympic Street.
- It will not interfere with the future expansion of Olympic Street, the Pacaltsdorp sport fields or the Pacaltsdorp cemetery.
- It will have a low visual impact from the residential areas.
- It has the potential for future expansion of infrastructure.
- It is the least biodiversity-sensitive area.
- It does not contain any wetland habitat within the development footprint.

Provide a full description of the process followed to reach the preferred alternative within the site.

Various specialist studies were undertaken including aquatic, fauna, botanical and terrestrial biodiversity in order to determine the site location that would have the lowest impact on the biophysical environment.

The aquatic specialists (Confluent Consulting) delineated two wetland habitats that should be avoided by the development. Only development in Position B will be able to avoid the delineated wetland habitats.

Comments were received from GoGeorge/GIPTN stating that the future widening of Olympic Street and upgrades for the intersection, marks Position C as not preferable for the proposed development.

A pre-application consultation with Town Planning and Civil Engineering Services indicated that the proposed development at Position A will limit the future expansion of the existing sports facilities as well as the bulk water supply infrastructure.

Provide a detailed motivation if no property and site alternatives were considered.

List the positive and negative impacts that the property and site alternatives will have on the environment.

Impact	Position A (Least Preferable)	Position B (Preferred Alternative)	Position C (Eliminated)
Positive	Area consist of homogenous lawn grasses, where the habitat does not support a wide range of animal species. Therefore the proposed development will have a low environmental impact on fauna.	Development will not have an impact on the delineated wetland habitat. Low visual impact to surrounding residential communities. Allows for potential future expansion of reservoir infrastructure, the Pacaltsdorp sport	Pipeline routes to existing municipal reservoirs will be shorter, resulting in less earthworks to be completed. Access route to the development site will be shorter compared to Position A and B.

			facilities as well as the Pacaltsdorp Cemetery. Low accessibility to the public. Isolated portion of land with low development potential.	
Negative	Prevent future expansion of water reservoir infrastructure as well as to the Pacaltsdorp sport facilities.	Clearing of ~1.6ha CBA 2 habitat, although due to historic unlawful dumping/infilling the area as well as the establishment of alien vegetation will not be able to fulfil the objectives of a CBA2 area.	Development will be located within the delineated wetland habitat. Loss of approximately 0.55ha of wetland habitat. Prevent the expansion/widening of Olympic Street.	

1.2. Activity alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.

Provide a description of the preferred activity alternative.

Alternative 1 (Preferred)

The proposed development will entail the following infrastructure:

- 2 x 14.5ML Water reservoirs.
- 1 x Pump station.
- 1 x 1.25ML Pressure tower (~35m high).
- 1 x 1.75ML Pressure tower (~35m high).
- Access road (4.5m wide) from Olympic Street and Beach Road.
- Fence (480m long and 2.4m high).
- Interconnecting pipelines.
- Stormwater drainage pipes, headwalls and level spreaders.

The proposed water reservoirs and associated infrastructure will be connected with the existing municipal water reservoir infrastructure with the new pipelines following three routes around the Pacaltsdorp sport fields (Figure 4).

- **Route A** (yellow shading, Figure 4):
 - Pipeline A1: diameter = 600mm. Length = ~600m. Route = 270m along the western boundary of the Pacaltsdorp sport fields and 330m along Olympic Street.
 - Pipeline A2: diameter = 300mm. Length = ~600m. Reservation of possible future pipeline following the same route as A1.
- **Route B** (blue shading, Figure 4):
 - Pipeline B1: diameter = 400mm. Length = ~450m. Route = along the southern boundary of the Pacaltsdorp sport fields.
 - Pipeline B2: diameter = 500mm. Length = ~450m. Reservation of future pipeline following the same route as B1. Alternatively, Pipeline B2 will be placed on the western and southern boundary of Erf 7387.
- **Route C** (green shading, Figure 4):
 - Pipeline C1: diameter = 300mm. Length = ~240m. Route = along Beach Road.

- Pipeline C2: diameter = 300mm. Length = ~200m. Route = along the eastern boundary of Pacaltsdorp sports field (alternative route to C1).
- Pipeline C3: diameter = 300mm. Length = ~200m. Reservation of possible future pipeline following the same route as C2.

Access to the proposed development site will be via the existing unnamed gravel tracks leading from Olympic Street along the western boundary of the Pacaltsdorp sport fields as well as from Beach Road along the southern boundary of the Pacaltsdorp sport fields (Figure 5).

675mm Diameter concrete pipes will convey the flow from outlets and drainage pipes from the overflow chamber to discharge points. The discharge points will be provided with a headwall and energy dissipation measures (level spreaders) to mitigate against localised erosion during scouring and overflows. Reno mattress protection will be installed below the fence line to ensure any overflows do not cause erosion.

Provide a description of any other activity alternatives investigated.

The **No-Go alternative** (status quo) with no development of water reservoir infrastructures / additional storage capacity to accommodate increases water supply when the George Water Works upgrades are complete.

This will imply that the proposed development site remains vacant.

Current land use associated with illegal dumping and the spread of invasive alien vegetation will continue as the site is not fenced, there is not form of access control and there will be no additional benefit of upgrading the road that also serves the Pacaltsdorp Cemetery.

Provide a motivation for the preferred activity alternative.

Alternative 1 (Preferred)

Alternative 1 is the preferred activity due to the following aspects:

- Increase in the future development capacity of George Municipality.
- Improve the holistic financial sustainability of the George Municipality due to the increase in future development capacity.
- Create temporary employment opportunities during pre-construction and construction phases.
- Create temporary employment opportunities for contractors, small businesses and suppliers during construction and operational phases.

Provide a detailed motivation if no activity alternatives exist.

It is stipulated in the PSDF: *'The supply of potable water from the Western Cape Water Supply System to regional schemes is already highly constrained. Water supply constraints have the potential to constrain development and local economies, impacting on livelihoods, government revenues, etc. The potential for economic growth in the region is inextricably linked to its ability to secure additional water resources'*.

It is therefore evident that the expansion of existing municipal water reservoir infrastructure is inevitable in order to support the needs of expanding development within George Municipality.

List the positive and negative impacts that the activity alternatives will have on the environment.

	Impact	No-Go Option	Alternative 1 (Preferred)
	Positive	No vegetation will be disturbed. Habitat will remain intact. No fragmentation of ecosystem patterns/processes.	Increase in the future development capacity of the George Municipality.

		<p>Improve the holistic financial sustainability of the George Municipality due to the increase in future development capacity.</p> <p>Create temporary employment opportunities during pre-construction and construction phases.</p> <p>Create temporary employment opportunities for contractors, small businesses and suppliers during construction and operational phases.</p> <p>Optimising vacant land.</p>
Negative	<p>Invasive alien vegetation will not be managed.</p> <p>Unlawful dumping/infilling will continue.</p> <p>Pollution due to runoff from unlawfully dumped/infilled material into wetland habitats.</p> <p>Limit the future development capacity of the George Municipality.</p> <p>No additional employment opportunities will be created.</p> <p>Property will remain vacant and concern has been raised about land invasion.</p>	<p>Clearing of ~1.6ha CBA 2 habitat, although due to historic unlawful dumping/infilling the area as well as the establishment of alien vegetation will not be able to fulfil the objectives of a CBA2 area.</p>

1.3. Design or layout alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts

Provide a description of the preferred design or layout alternative.

Alternative 1 (Preferred)

The preferred design layout includes the following infrastructure (Figure 16):

- 2 x 14.5ML Water reservoirs.
- 1 x Pump station.
- 1 x 1.25ML Pressure tower (~35m high).
- 1 x 1.75ML Pressure tower (~35m high).
- Access road (4.5m wide) from Olympic Street and Beach Road.
- Fence (480m long and 2.4m high).
- Interconnecting pipelines.
- Stormwater drainage pipes headwalls and level spreaders.

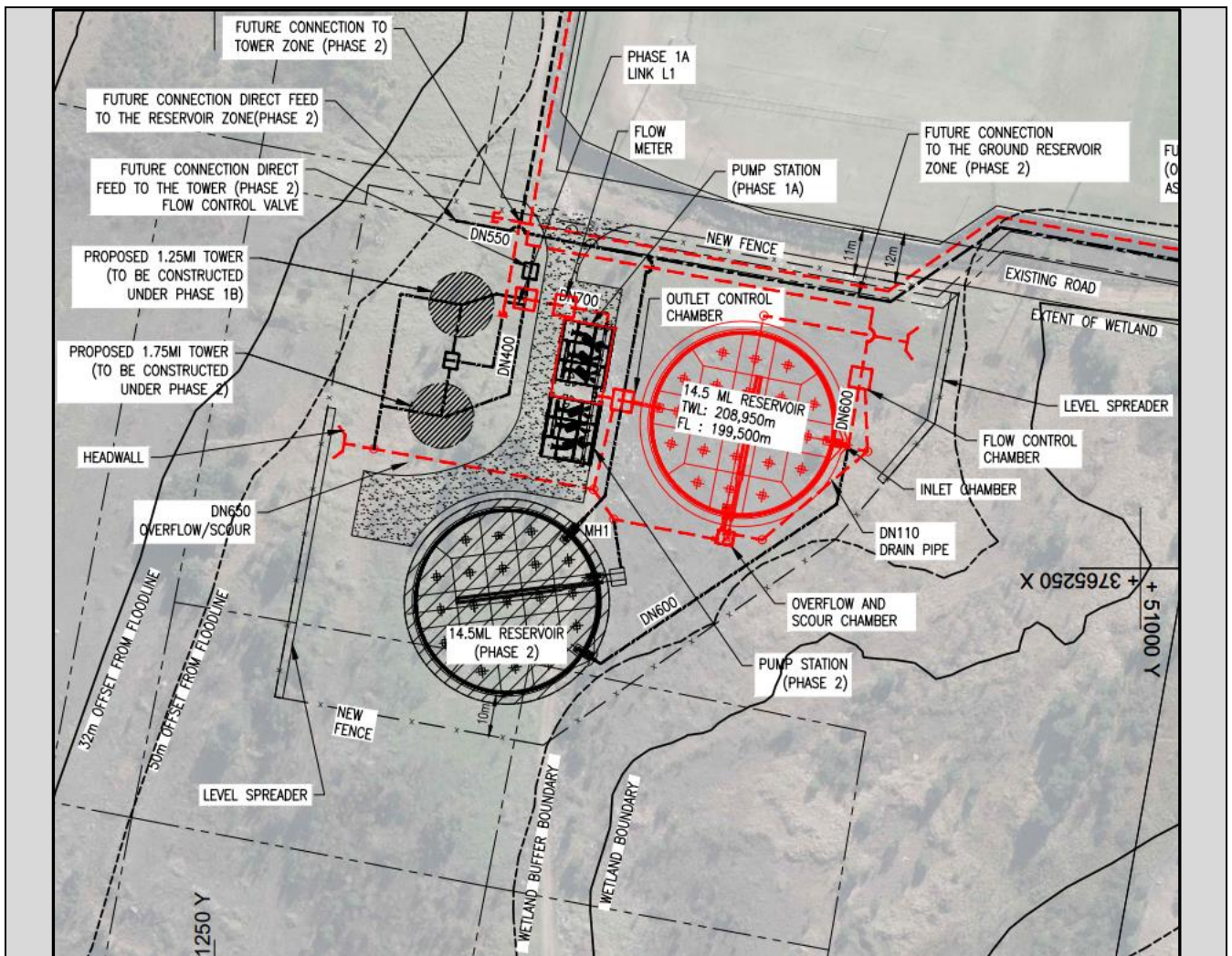


Figure 16: Preferred alternative design layout plan.

Provide a description of any other design or layout alternatives investigated.

Alternative 2

The original preliminary design included the following infrastructure (Figure 17):

- 2 x 14.5ML Water reservoirs.
- 1 x Pump station.
- 1 x 3ML Water pressure tower.
- Access road (4.5m wide) from Olympic Street.
- Fence (480m long and 2.4m high).
- Interconnecting pipelines.
- Single stormwater drainage pipe and headwall.

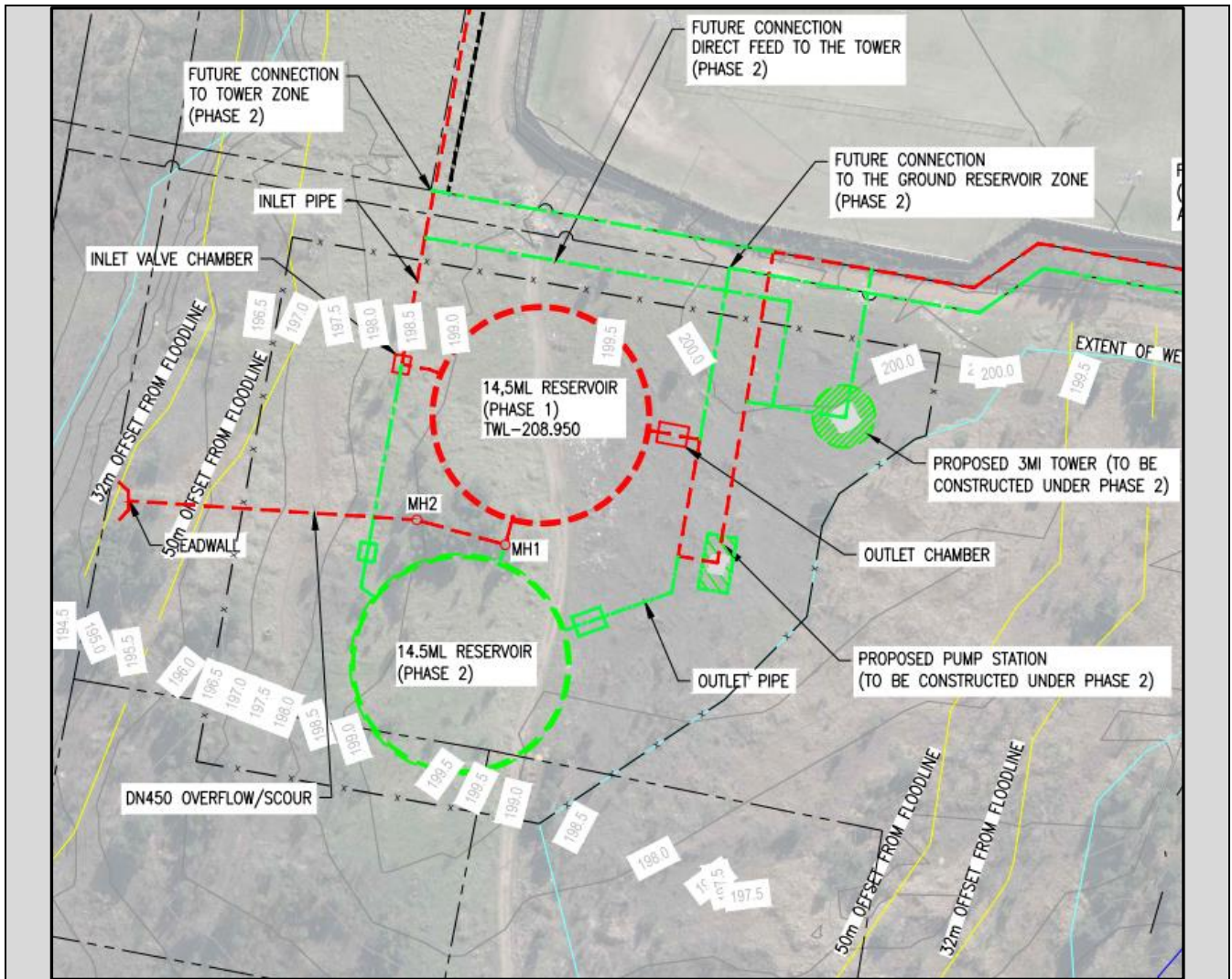


Figure 17: Original preliminary design layout plan.

Stormwater Management:

The original Site Development Plan proposed an underground stormwater pipe transferring all stormwater runoff and water discharged from the reservoir overflow chambers. The stormwater pipe ended in a headwall and discharged onto the slope above the delineated wetland to the west of Position B. Due to the sensitivity of the wetland type to channel incision, it would be beneficial to attenuate as much stormwater within the development site as possible.

The site development plan was adjusted in order to utilise the perimeter fence design specifications from George Municipality as a SUDS intervention. The base of the fence will be installed into concrete beams slightly raised (level spreaders) above ground level to retain stormwater on site. A second stormwater pipe was also added on the eastern side of the proposed development site allowing stormwater to ultimately drain via the level spreaders to both the western and eastern wetland habitat. Reno mattress protection will be installed below the fence line to ensure any overflows do not cause erosion.

Fencing:

The original site development layout indicated that the eastern fence followed a wavy line, which corresponded with the original wetland delineated by Freshwater Consulting Group (FCG; L. Day & J. Ewart-Smith) in 2014. The fence line of the preferred site development layout indicates a straightened fence for the sake of simplicity. The revised fence does not encroach on the wetland habitat delineated by Confluent Consulting in 2023.

The original site development layout entailed the development of a single water pressure tower (3ML capacity). It was since decided to rather develop two (2) water pressure towers that can be implemented in phases as required.

Access Roads:

A single access road from Olympic Street was proposed in the preliminary design layout. It has since been decided to ass an access road from Beach Road, along the southern boundary of the Pacaltsdorp sport fields. The addition of an access route will increase the ease of access to pipelines for maintenance purposes.

Provide a motivation for the preferred design or layout alternative.

The preferred layout alternative was identified as the most preferable by taking into account the following aspects:

- It avoids the delineated wetland habitat.
- It will limit channel incision from stormwater runoff.
- It reduces the impact of high velocity, concentrated stormwater flows.
- Increase accessibility for pipeline maintenance.
- It is the most cost effective as pressure towers can be implemented in phases as required.

Provide a detailed motivation if no design or layout alternatives exist.

List the positive and negative impacts that the design alternatives will have on the environment.

Impact	Alternative 1 (Preferred)	Alternative 2
Positive	Avoids delineated wetland habitats. Limits channel incision from stormwater runoff. Reduced impact of high velocity, concentrated stormwater flows. Increase accessibility for pipeline maintenance along the southern boundary of the Pacaltsdorp sport fields. Cost effective.	Single access road decreases the possibility of disturbance to delineated wetland habitats. Single water tower will have a lower visual impact on the surrounding community.
Negative	Clearing of ~1.6ha CBA 2 habitat, although due to historic unlawful dumping/infilling the area as well as the establishment of alien vegetation will not be able to fulfil the objectives of a CBA2 area.	Stormwater discharge point located within delineated wetland habitat. Increase in stormwater runoff velocity due to a single stormwater outlet pipe being used. Limits accessibility to pipelines along the southern boundary of the Pacaltsdorp sport fields for maintenance. Clearing of ~1.6ha CBA 2 habitat, although due to historic unlawful dumping/infilling the area as well as the establishment of

		alien vegetation will not be able to fulfil the objectives of a CBA2 area.
1.4.	Technology alternatives (e.g., to reduce resource demand and increase resource use efficiency) to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.	
Provide a description of the preferred technology alternative:		
<p>Power supply arrangements will be put in place to provide power for the pumps and other equipment. The power supply infrastructure must provide for the following:</p> <ul style="list-style-type: none"> • Pumping equipment (ultimately 6 x 90 kW motors). • Actuated valves (only to be required in the pumpstation). • Power supply to flow meters and (potentially) to flow control valves. • Power supply to other monitoring instruments – such as pressure and flow instruments. • Ventilation and/or air-conditioning for the MCC area of the pumpstation. • Ventilation of the pump pit. • Small power and lighting in the pump house. • Area lighting within the reservoir site (floodlights and/or high-mast lights). • Power supply for access control and security requirements . <p>Control and instrumentation (C&I) infrastructure will be required to ensure the proper operation, monitoring and protection of the pumpstation, reservoirs and water towers.</p> <p>The C&I installations and programming will address the following:</p> <ul style="list-style-type: none"> • Pump (or pumping system) start-up, operating and shut-down procedures. • Pump and motor monitoring and control (including parameters such as temperature and vibration). • Flow monitoring (flow status and metering). • Reservoir and water tower monitoring and control (flow, water levels, valve positions). • Warnings and alarms for reservoir overflow and low water level. • Telemetry requirements to allow data, including reservoir and tower water levels and pump status, to be communicated between the sites (old reservoir, new reservoir) and to other GLM locations for the management and control of the infrastructure. 		
Provide a description of any other technology alternatives investigated.		
Provide a motivation for the preferred technology alternative.		
Provide a detailed motivation if no alternatives exist.		
List the positive and negative impacts that the technology alternatives will have on the environment.		
1.5.	Operational alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.	
Provide a description of the preferred operational alternative.		
<p>There are a number of other water tower arrangements in the George Municipality supply area and the municipality would ideally like to see a common approach taken to the control of these. In this regard it has been noted by the municipality that consideration might be given to a timer based means of controlling the pumping to the water towers. This must be addressed during the detailed design stage when the control philosophy is developed.</p> <p>Please also refer to Section 1.2,1.3 and 1.4 under 'Alternatives'</p>		

Provide a description of any other operational alternatives investigated.	
Provide a motivation for the preferred operational alternative.	
Provide a detailed motivation if no alternatives exist.	
List the positive and negative impacts that the operational alternatives will have on the environment.	
1.6.	The option of not implementing the activity (the 'No-Go' Option).
Provide an explanation as to why the 'No-Go' Option is not preferred.	
<p>It is stipulated in the PSDF: <i>'The supply of potable water from the Western Cape Water Supply System to regional schemes is already highly constrained. Water supply constraints have the potential to constrain development and local economies, impacting on livelihoods, government revenues, etc. The potential for economic growth in the region is inextricably linked to its ability to secure additional water resources'</i>.</p> <p>It is therefore evident that the expansion of existing municipal water reservoir infrastructure is inevitable in order to support the needs of expanding development within George Municipality.</p> <p>Negative Impacts of No-Go Alternative:</p> <ul style="list-style-type: none"> • Invasive alien vegetation will not be managed. • Unlawful dumping/infilling will continue. • Pollution due to runoff from unlawfully dumped/infilled material into wetland habitats. • Limit the future development capacity of the George Municipality. • No additional employment opportunities will be created. • Property will remain vacant and concern has been raised about land invasion. 	
1.7.	Provide an explanation as to whether any other alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist.
Should any reasonable and feasible alternatives be proposed as part of the stakeholder engagement process, such will be considered and responded to as part of the ongoing environmental process.	
1.8.	Provide a concluding statement indicating the preferred alternatives, including the preferred location of the activity.
<p>The proposed development is deemed preferable and suitable for the proposed property for the following reasons:</p> <ul style="list-style-type: none"> • Increase in the future development capacity of the George Municipality. • Improve the holistic financial sustainability of the George Municipality due to the increase in future development capacity. • Create temporary employment opportunities during pre-construction and construction phases. • Create temporary employment opportunities for contractors, small businesses and suppliers during construction and operational phases. • Optimising vacant land. • Development will not have an impact on the delineated wetland habitat. • Low visual impact to surrounding residential communities. • Allows for potential future expansion of reservoir infrastructure, the Pacaltsdorp sport facilities as well as the Pacaltsdorp Cemetery. • Low accessibility to the public. 	

- Isolated portion of land with low development potential.

2. “NO-GO” AREAS

Explain what “no-go” area(s) have been identified during identification of the alternatives and provide the co-ordinates of the “no-go” area(s).

“No-Go” areas for environmental sensitivity have been identified and must be established before commencement of construction. All personnel involved in the development must be briefed about the exact location of the “No-Go” areas (Figure 18).



Figure 18: “No-go” areas that must be adhered to during development (Confluent Consulting, 2023).

3. METHODOLOGY TO DETERMINE THE SIGNIFICANCE RATINGS OF THE POTENTIAL ENVIRONMENTAL IMPACTS AND RISKS ASSOCIATED WITH THE ALTERNATIVES.

Describe the methodology to be used in determining and ranking the nature, significance, consequences, extent, duration of the potential environmental impacts and risks associated with the proposed activity or development and alternatives, the degree to which the impact or risk can be reversed and the degree to which the impact and risk may cause irreplaceable loss of resources.

Criteria for Assessment

These criteria are drawn from the EIA Regulations, published by the Department of Environmental Affairs and Tourism (April 1998) in terms of the Environmental Conservation Act No. 73 of 1989.

These criteria include:

- **Nature of the impact**

This is the appraisal of the type of effect the construction, operation and maintenance of a development would have on the affected environment. This description should include what is to be affected and how.

- **Extent of the impact**

Describe whether the impact will be: local extending only as far as the development site area; or limited to the site and its immediate surroundings; or will have an impact on the region, or will have an impact on a national scale or across international borders.

- **Duration of the impact**

The specialist / EAP should indicate whether the lifespan of the impact would be short term (0-5 years), medium term (5-15 years), long term (16-30 years) or permanent.

- **Intensity**

The specialist / EAP should establish whether the impact is destructive or benign and should be qualified as low, medium or high. The study must attempt to quantify the magnitude of the impacts and outline the rationale used.

- **Probability of occurrence**

The specialist / EAP should describe the probability of the impact actually occurring and should be described as improbable (low likelihood), probable (distinct possibility), highly probable (most likely) or definite (impact will occur regardless of any prevention measures).

The impacts should also be assessed in terms of the following aspects:

- **Legal requirements**

The specialist / EAP should identify and list the relevant South African legislation and permit requirements pertaining to the development proposals. He / she should provide reference to the procedures required to obtain permits and describe whether the development proposals contravene the applicable legislation.

- **Status of the impact**

The specialist / EAP should determine whether the impacts are negative, positive or neutral ("cost – benefit" analysis). The impacts are to be assessed in terms of their effect on the project and the environment. For example, an impact that is positive for the proposed development may be negative for the environment. It is important that this distinction is made in the analysis.

- **Accumulative impact**

Consideration must be given to the extent of any accumulative impact that may occur due to the proposed development. Such impacts must be evaluated with an assessment of similar developments already in the environment. Such impacts will be either positive or negative, and will be graded as being of negligible, low, medium or high impact.

- **Degree of confidence in predictions**

The specialist / EAP should state what degree of confidence (low, medium or high) is there in the predictions based on the available information and level of knowledge and expertise.

Based on a synthesis of the information contained in the above-described procedure, you are required to assess the potential impacts in terms of the following significance criteria:

No significance: the impacts do not influence the proposed development and/or environment in any way.

Low significance: the impacts will have a minor influence on the proposed development and/or environment. These impacts require some attention to modification of the project design where possible, or alternative mitigation.

Moderate significance: the impacts will have a moderate influence on the proposed development and/or environment. The impact can be ameliorated by a modification in the project design or implementation of effective mitigation measures.

High significance: the impacts will have a major influence on the proposed development and/or environment and will result in the "no-go" option on the development or portions of the development regardless of any mitigation measures that could be implemented. This level of significance must be well motivated.

4. ASSESSMENT OF EACH IMPACT AND RISK IDENTIFIED FOR EACH ALTERNATIVE

Note: The following table serves as a guide for summarising each alternative. The table should be repeated for each alternative to ensure a comparative assessment. The EAP may decide to include this section as Appendix J to this BAR.

Aquatic Impact Assessment	
Alternative:	Alternative 1 (Preferred) Position B
Construction Phase	
Potential impact and risk:	Habitat degradation of eastern wetland during road upgrade / Soil destabilisation and sedimentation smothering vegetation
Nature of impact:	Without Mitigation – Negative With Mitigation – Negative
Extent and duration of impact:	Without Mitigation: Extent – Limited (Limited to the site and its immediate surroundings). Duration – Short term (Impact will last between 1 and 5 years). With Mitigation: Extent – Very Limited (Limited to specific isolated parts of the site). Duration – Brief (Impact will not last longer than 1 year).
Consequence of impact or risk:	Natural and/or social functions and/or processes are somewhat altered.
Probability of occurrence:	Without Mitigation – Likely (The impact may occur). With Mitigation – Rare/improbable (Conceivable, but only in extreme circumstances, and/or might occur for this project although this has rarely been known to result elsewhere).
Degree to which the impact may cause irreplaceable loss of resources:	Without Mitigation – Low (The resource is not damaged irreparably or is not scarce). With Mitigation – Low (The resource is not damaged irreparably or is not damaged).
Degree to which the impact can be reversed:	Without Mitigation – High (The affected environment will be able to recover from the impact).

	With Mitigation – High (The affected environment will be able to recover from the impact).
Indirect impacts:	None Identified
Cumulative impact prior to mitigation:	Not Applicable
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium - negative
Degree to which the impact can be avoided:	High – By adhering to demarcated “no-go” areas.
Degree to which the impact can be managed:	High – Mitigation measures are stipulated and will considerably reduce the significance of the impact.
Degree to which the impact can be mitigated:	High – Mitigation measures are stipulated and will considerably reduce the significance of the impact.
Proposed mitigation:	<ul style="list-style-type: none"> Existing or new surface material must not be pushed to the wetland edge of the road. This side of the road must be kept clear of loose, unstable material to avoid it falling / spreading into wetland habitat. Trenching for the new pipeline should place soil 'upstream' of the trench so that it washes back into the trench in the event of significant rainfall, as opposed to across the road and into the wetland. If feasible, the pipeline should not have any joins or connections aligned to the wetland area as joins are more prone to leaks. Try and keep joins out of the wetland area. Once the road upgrade and pipe installation have concluded, seed the exposed topsoil along the pipeline with a combination of <i>Cynodon dactylon</i> (Kweek) and / or <i>Stenotaphrum secundatum</i> (Buffalo grass). Works to upgrade the road must not increase the road's footprint; it must be kept at the same width.
Residual impacts:	Not Applicable
Cumulative impact post mitigation:	Not Applicable
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Negligible - negative

Potential impact and risk:	Disturbance to wetland and buffer areas / Vehicles, workers and materials active in wetland and buffer areas
Nature of impact:	Without Mitigation – Negative With Mitigation - Negative
Extent and duration of impact:	Without Mitigation: Extent – Very Limited (Limited to specific isolated parts of the site). Duration – Medium term (Impact will last between 5 and 10 years). With Mitigation: Extent – Very Limited (Limited to specific isolated parts of the site). Duration – Brief (Impact will not last longer than 1 year).
Consequence of impact or risk:	Natural and/or social functions and/or processes are moderately altered.
Probability of occurrence:	Without Mitigation – Likely (The impact may occur). With Mitigation – Probable (The impact has occurred here or elsewhere and could therefore occur).
Degree to which the impact may cause irreplaceable loss of resources:	Without Mitigation – Medium (The resource is damaged irreparably but is represented elsewhere). With Mitigation – Low (The resource is not damaged irreparably or is not scarce).
Degree to which the impact can be reversed:	Without Mitigation – Medium (The affected environment will only recover from the impact with significant intervention). With Mitigation – High (The affected environment will be able to recover from the impact).
Indirect impacts:	None Identified
Cumulative impact prior to mitigation:	Not Applicable
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Minor - Negative
Degree to which the impact can be avoided:	High – By adhering to demarcated “no-go” areas.
Degree to which the impact can be managed:	The impact of increasing the footprint of disturbance by entering no-go areas can be mitigated to a large extent by full implementation of these mitigation measures.

Degree to which the impact can be mitigated:	High – Mitigation measures are stipulated and will considerably reduce the significance of the impact.
Proposed mitigation:	<ul style="list-style-type: none"> • Pre-construction, temporary fencing must be erected along No-Go areas. • Signage indicating No-Go areas must be placed on fencing. • All contractors must be briefed that vehicles, workers and materials may not encroach into No-Go areas around wetlands. • Access road for the site should preferably be from Olympic Street. Access road from Beach Road only to be used for pipeline installation and upgrade of the road. The aim is to concentrate heavy construction vehicle traffic along one access route where it can be controlled, and the wetland is not in such close proximity to the road.
Residual impacts:	Not Applicable
Cumulative impact post mitigation:	Not Applicable
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Negligible - Negative
Potential impact and risk:	
	Loss of artificial wetland habitats / Puddles in the development footprint with wetland plans will be destroyed and permanently transformed
Nature of impact:	<p>Without Mitigation – Negative</p> <p>With Mitigation - Negative</p>
Extent and duration of impact:	<p>Without Mitigation: Extent – Very Limited (Limited to specific isolated parts of the site). Duration – Permanent (Impact may be permanent, or in excess of 20 years).</p> <p>With Mitigation: Extent – Very Limited (Limited to specific isolated parts of the site). Duration – Permanent (Impact may be permanent, or in excess of 20 years).</p>
Consequence of impact or risk:	Natural and/or social functions and/or processes are negligibly altered.
Probability of occurrence:	Without Mitigation – Certain/definite (There are sound scientific reasons to expect the impact will definitely occur).

	With Mitigation – Unlikely (Has not happened yet but could happen once in the lifetime of the project).
Degree to which the impact may cause irreplaceable loss of resources:	Without Mitigation – Low (The resource is not damaged irreparably or is not scarce). With Mitigation – Low (The resource is not damaged irreparably or is not scarce).
Degree to which the impact can be reversed:	Without Mitigation – High (The affected environment will be able to recover from the impact). With Mitigation – High (The affected environment will be able to recover from the impact).
Indirect impacts:	None Identified
Cumulative impact prior to mitigation:	Not Applicable
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Minor – Negative
Degree to which the impact can be avoided:	Not Applicable
Degree to which the impact can be managed:	Medium – Mitigation measures are stipulated and will notably reduce the significance of the impact.
Degree to which the impact can be mitigated:	Medium – Mitigation measures are stipulated and will notably reduce the significance of the impact.
Proposed mitigation:	<ul style="list-style-type: none"> • Prior to commencement of construction, undertake a wetland plant rescue from artificial puddles with inputs from an aquatic ecologist. • Plants can either be used to vegetate stormwater attenuation areas on the site post construction (if conditions are suitable), or for other rehabilitation projects in George with similar habitat.
Residual impacts:	Not Applicable
Cumulative impact post mitigation:	Not Applicable
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Negligible - Negative

Potential impact and risk:	Stormwater runoff from the site / Sedimentation in wetlands and creation of preferential flow paths
Nature of impact:	Negative
Extent and duration of impact:	Without Mitigation: Extent – Local (Extending across the site and to nearby settlements). Duration – Short Term (Impact will last between 1 and 5 years). With Mitigation: Extent – Very Limited (Limited to specific isolated parts of the site). Duration – Brief (Impact will not last longer than 1 year).
Consequence of impact or risk:	Natural and/or social functions and/or processes are moderately altered.
Probability of occurrence:	Without Mitigation – Likely (The impact may occur). With Mitigation – Probable (The impact has occurred here or elsewhere and could therefore occur).
Degree to which the impact may cause irreplaceable loss of resources:	Without Mitigation – Low (The resource is not damaged irreparably or is not scarce). With Mitigation – Low (The resource is not damaged irreparably or is not scarce).
Degree to which the impact can be reversed:	Without Mitigation – Medium (The affected environment will only recover from the impact with significant intervention). With Mitigation – High (The affected environment will be able to recover from the impact).
Indirect impacts:	None Identified
Cumulative impact prior to mitigation:	Not Applicable
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Minor – Negative.

Degree to which the impact can be avoided:	Not Applicable
Degree to which the impact can be managed:	Medium – Mitigation measures exists and will notably reduce significance of impacts.
Degree to which the impact can be mitigated:	Medium – Mitigation measures exists and will notably reduce significance of impacts.
Proposed mitigation:	<ul style="list-style-type: none"> • The site office should have a store of materials suitable for rapid response to erosion control such as shade-cloth (silt-fencing), haybales (check-dams), wooden droppers, hessian fabric, and fencing wire. • All material stores should be kept on flat areas and bunded to prevent material loss during rainfall. • When construction commences in the reservoir area, create a compacted, low soil berm along the perimeter of the site approximately 400 mm high to retain stormwater on site and reduce runoff. • Soil from the trench for installation of the pipeline along the road west of the sportsground should be placed upslope of the trench so that in the event of rainfall it washes back into the trench and not into the natural area. • Monitor the site during / following periods of rainfall, and install haybale check dams at points where runoff collects and could overtop / breach the soil berm. • Check ahead for rainfall. Do not continue work during rainfall, and ensure the site is prepared to minimise erosion and sediment-laden runoff in advance of rainfall. • Following rainfall, water pumped out of pools in excavated areas must not be directed to wetlands. The soil berm system or a temporary haybale check dam can be constructed to contain water until it seeps into the ground or slowly disperses through the haybales which act as a filter.
Residual impacts:	Not Applicable
Cumulative impact post mitigation:	Not Applicable
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Negligible -Negative
Operational Phase	
Potential impact and risk:	Channel incision in wetlands or erosion cuts due to high velocity outflows / Reservoir overflow events for maintenance, or stormwater runoff could degrade wetland habitats
Nature of impact:	Negative

Extent and duration of impact:	Without Mitigation: Extent – Local (Extending across the site and to nearby settlements). Duration – Long Term (Impact will last between 10 and 15 years). With Mitigation: Extent – Very Limited (Limited to specific isolated parts of the site). Duration – Brief (Impact will not last longer than 1 year).
Consequence of impact or risk:	Natural and/or social functions and/or processes are moderately altered.
Probability of occurrence:	Without Mitigation – Likely (The impact may occur). With Mitigation – Unlikely (Has not happened yet but could happen once in the lifetime of the project).
Degree to which the impact may cause irreplaceable loss of resources:	Without Mitigation – Medium (The resource is damaged irreparably but is represented elsewhere). Without Mitigation – Medium (The resource is damaged irreparably but is represented elsewhere).
Degree to which the impact can be reversed:	Without Mitigation – Medium (The affected environment will only recover from the impact with significant intervention). Without Mitigation – Medium (The affected environment will only recover from the impact with significant intervention).
Indirect impacts:	None Identified
Cumulative impact prior to mitigation:	Not Applicable
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Minor - Negative
Degree to which the impact can be avoided:	Not Applicable
Degree to which the impact can be managed:	Medium – Mitigation measures exist and will notably reduce significance of this impact.
Degree to which the impact can be mitigated:	Medium – Mitigation measures exist and will notably reduce significance of this impact.
Proposed mitigation:	<ul style="list-style-type: none"> • Stormwater runoff and any overflows / scouring for maintenance to be attenuated within the site development area using the level spreader at the base of the fence line as an attenuation pond. • Entire stormwater attenuation feature must be revegetated post-construction with a mixture of Cynodon dactylon (Kweek) and Stenotaphrum secundatum (Buffalo).

	<ul style="list-style-type: none"> • A ground level, vegetated reno mattress should be installed along the outer length of the level spreader to reduce the risk of scour should the level spreader be overtopped in a significant high flow event. • An emergency overflow pipe connecting the water tower to the reservoir (greater storage capacity) should be installed when this is constructed to reduce the risk of high velocity overflows from the water tower. • Monitoring of the performance of the level spreader should be undertaken following high rainfall events to identify problematic flow paths. Any erosion observed must be proactively repaired and a solution found which does not transfer negative impacts to wetlands to the west and east of the site.
Residual impacts:	Not Applicable
Cumulative impact post mitigation:	Not Applicable
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Negligible - Negative
Nature of impact:	Alien vegetation encroachment / Loss of indigenous wetland vegetation due to gradual invasion by alien plants
Extent and duration of impact:	Without Mitigation: Extent – Limited (Limited to the site and its immediate surroundings). Duration – Long Term (Impact will last between 10 and 15 years). With Mitigation: Extent – Very Limited (Limited to specific isolated parts of the site). Duration – Brief (Impact will not last longer than 1 year).
Consequence of impact or risk:	Natural and/or social functions and/or processes are moderately altered.
Probability of occurrence:	Without Mitigation – Likely (The impact may occur). With Mitigation – Probable (The impact has occurred here or elsewhere and could therefore occur).
Degree to which the impact may cause irreplaceable loss of resources:	Without Mitigation – Low (The resource is not damaged irreparably or is not scarce). With Mitigation – Low (The resource is not damaged irreparably or is not scarce).
Degree to which the impact can be reversed:	Without Mitigation – Medium (The affected environment will only recover from the impact with significant intervention).

	Without Mitigation – High (The affected environment will be able to recover from the impact).
Indirect impacts:	None Identified
Cumulative impact prior to mitigation:	Not Applicable
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Minor – Negative
Degree to which the impact can be avoided:	Not Applicable
Degree to which the impact can be managed:	Medium – Mitigation measures exist and will notably reduce significance of this impact.
Degree to which the impact can be mitigated:	Medium – Mitigation measures exist and will notably reduce significance of this impact.
Proposed mitigation:	<ul style="list-style-type: none"> • All areas disturbed during the construction phase (the reservoir site as well as pipeline areas) must be inspected for and cleared of alien vegetation 6 months and 12 months following construction. • No pesticides to be used in any wetland or buffer areas. Alien plants must be removed by hand / hand tools only. • Where indigenous vegetation struggles to cover disturbed areas naturally, sow seeds of indigenous grasses such as Cynodont dactylon and Stenotaphrum secundatum.
Residual impacts:	Not Applicable
Cumulative impact post mitigation:	Not Applicable
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Negligible - Positive
Nature of impact:	Rubbish dumping in the eastern wetland due to upgrade road access / Wetland habitat degradation and loss
Extent and duration of impact:	Without Mitigation: Extent – Limited (Limited to the site and its immediate surroundings). Duration – Medium Term (Impact will last between 5 and 10 years).

	With Mitigation: Extent – Very Limited (Limited to specific isolated parts of the site). Duration – Brief (Impact will not last longer than 1 year).
Consequence of impact or risk:	Natural and/or social functions and/or processes are moderately altered.
Probability of occurrence:	Without Mitigation – Almost Certain/Highly Probable (It is most likely that the impact will occur). With Mitigation – Unlikely (Has not happened yet but could happen once in the lifetime of the project).
Degree to which the impact may cause irreplaceable loss of resources:	Without Mitigation – Low (The resource is not damaged irreparably or is not scarce). With Mitigation – Low (The resource is not damaged irreparably or is not scarce).
Degree to which the impact can be reversed:	Without Mitigation – Medium (The affected environment will only recover from the impact with significant intervention). Without Mitigation – High (The affected environment will be able to recover from the impact).
Indirect impacts:	None Identified
Cumulative impact prior to mitigation:	Not Applicable
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Minor – Negative
Degree to which the impact can be avoided:	Not Applicable
Degree to which the impact can be managed:	High – Mitigation measures are stipulated and will considerably reduce the significance of impacts.
Degree to which the impact can be mitigated:	High – Mitigation measures are stipulated and will considerably reduce the significance of impacts.
Proposed mitigation:	<ul style="list-style-type: none"> Create a barrier across the road restricting access to municipal personnel working on the reservoir and pipeline only. This could be a boom or a gate located between the cemetery and the wetland.
Residual impacts:	Not Applicable
Cumulative impact post mitigation:	Not Applicable

Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Negligible - Negative
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SECTION I: FINDINGS, IMPACT MANAGEMENT AND MITIGATION MEASURES

1.	Provide a summary of the findings and impact management measures identified by all Specialist and an indication of how these findings and recommendations have influenced the proposed development.
<p>Aquatic Biodiversity Impact Assessment (Confluent Consulting): The Aquatic Biodiversity Impact Assessment stipulated the following:</p> <ul style="list-style-type: none"> • Two wetland habitats were delineated (west and east of the preferred development site) that require careful management to ensure that they are not negatively impacted by the development. <ul style="list-style-type: none"> ○ <u>Mitigation:</u> The preferred site development plan design was informed by the location of the delineated wetland habitats. The preferred SDP avoids both wetland habitats. • Even though the preferred SDP avoids the delineated wetland habitats, careful management is required to ensure the habitats are not negatively affected by the development. <ul style="list-style-type: none"> ○ <u>Mitigation:</u> A 21m buffer between the wetland habitats and will be adhered to in the preferred SDP. The proposed fence line will encroach the wetland habitat buffer (21m) but is not considered a major impact. Onsite attenuation of stormwater to reduce the impact on delineated wetland habitats. <p>If all mitigation measures for the design and layout, construction and operational phases are adhered to, the development will have a Negligible Negative impact on aquatic ecosystems.</p> <p>A General Authorisation for Section c) and i) water uses as defined in the National Water Act and as described in GN509 of 2016 will be required.</p> <p>Please refer to Section H, 4. for all impact management measures identified by the aquatic specialist which will also be included in the environmental management programme (Appendix H).</p> <p>The following key points were stipulated in the Terrestrial Biodiversity and Botanical Compliance Statements regarding the impacts on the preferred proposed development site:</p> <ul style="list-style-type: none"> • Large portions of the preferred development site are covered with alien vegetation as well as unlawful infill/dumped material. • It will be difficult to restore the vegetation on the preferred development site and the location will therefore not easily fulfil the objective of CBA2 or ESA2 areas. • The proposed development could improve the state of the preferred development site by reducing pollution and erosion. • The preferred development site was mapped as Garden Route Granite Fynbos with a conservation status of Critically Endangered. However due to past disturbance and the establishment of alien vegetation, historically occurring fynbos have been lost. • No species of conservation concern (SCC) were identified in the referred development site. • Due to the factors mentioned above, the Terrestrial Biodiversity Theme sensitivity as well as Botanical Theme sensitivity can be regarded as Low. <p>Terrestrial Animal Species Compliance Statement: Based on the results stipulated in the compliance statement, the sensitivity of the proposed development site in terms of terrestrial animal species can be regarded as Medium based on the following:</p> <ul style="list-style-type: none"> • Absence of georeferenced records of any of the seven species of conservation concern (SCC) at or near the development site. • The lack of suitable habitats for all SCC apart from <i>A. knysnae</i>. 	

- High levels of human disturbance present in the area, making the occurrence of SCC unlikely in the proposed development site.
- The presence of two wetland habitat areas, which may be suitable for *A. knysnae*. The watercourse located adjacent to Position C is potentially more suitable for this species than the wetland habitat located adjacent to Position B.
- Lack of observations of the seven SCC highlighted by the DFFE screening tool, or any other SCC, during the site visit.

The compliance statement stipulated the following closing recommendations:

- The *Watsonia* present in Position C is likely an important feeding site for pollinators in the area, and should be kept intact.
- The wetland habitats and adjacent vegetation should not be disturbed or impacted by the proposed development.

The site development plan was adjusted to avoid the wetland habitat and adjacent vegetation as indicated in the Terrestrial Animal Species Compliance Statement. No development is proposed on Position C.

2.	List the impact management measures that were identified by all Specialist that will be included in the EMPr
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All impact management measures that were identified by all specialists and described above (Section H, 4. And Section I, 1.) will be included in the EMPr.

3.	List the specialist investigations and the impact management measures that will not be implemented and provide an explanation as to why these measures will not be implemented.
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All impact management measures and specialist findings have been accommodated in the preferred alternative.

4.	Explain how the proposed development will impact the surrounding communities.
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The development of additional municipal utility infrastructure is unlikely to deter from the character/value of the greater area. The surrounding area already contains municipal water reservoir infrastructure and will be supplemented by the proposed development.

The proposed development will contribute to the socio-economic value of George Municipality in the following ways:

- Create temporary employment opportunities during pre-construction and construction phase.
- Create temporary employment opportunities for contractors, small businesses and suppliers during construction and operational phases.
- Increase in the future development capacity of George Municipality.
- Improve the holistic financial sustainability of the George Municipality due to the increase in future development capacity.

There will be mostly temporary impacts associated with the construction phase, namely noise and potentially dust pollution.

The following key mitigation measures are submitted as part of the BAR (refer to the EMPr for more details):

- Construction activities must be limited to Mondays – Fridays (07:00 – 18:00) and Saturdays (08:00 – 13:00).
- Work may not take place on Sunday's or public holidays.
- Vegetation clearing must be done in phases to avoid large pieces of land being exposed to wind (which could result in unnecessary dust pollution).
- Make use of wetting agents should dust be a problem;
- Rehabilitation of work areas to take place as soon as possible to minimise dust pollution;

	<ul style="list-style-type: none"> An ECO must be appointed to oversee construction and must keep record of any complaints regarding noise/dust pollution; Construction material must be stored on-site and construction vehicles must not obstruct traffic flows.
5.	<p>Explain how the risk of climate change may influence the proposed activity or development and how has the potential impacts of climate change been considered and addressed.</p> <p>Rainfall intervals will become less, but downpours may be more severe. Therefore stormwater management on the site is important to prevent unnecessary erosion and/or flooding. The use of SUDS throughout the development will reduce the chances of erosion caused by stormwater runoff.</p> <p>Longer, drying periods will impact on plant growth and keeping landscaped areas presentable requires irrigation/watering. Planting only indigenous, endemic plants in landscaped areas will reduce the need for irrigation and also ensure that landscaped areas are more resilient during periods of drought.</p>
6.	<p>Explain whether there are any conflicting recommendations between the specialists. If so, explain how these have been addressed and resolved.</p> <p>There are no conflicting recommendations between the specialists.</p>
7.	<p>Explain how the findings and recommendations of the different specialist studies have been integrated to inform the most appropriate mitigation measures that should be implemented to manage the potential impacts of the proposed activity or development.</p> <p>All the findings and recommendations have been incorporated into the proposal.</p>
8.	<p>Explain how the mitigation hierarchy has been applied to arrive at the best practicable environmental option.</p> <p>1. Avoid Impacts</p> <ul style="list-style-type: none"> Avoid delineated wetland habitat areas (avoidance mitigation has been applied to the preferred design alternative). Survey the recommended 21m buffer area from the delineated wetland habitat prior to construction to ensure that no development encroaching into this sensitive area. Demarcate all "No-Go" areas prior to any vegetation clearing/development commencing to ensure that contractors do not cause harm/damage to such sensitive features in the wetland habitat. <p>2. Minimise Impacts</p> <ul style="list-style-type: none"> Clear the proposed development site of all NEMBA listed invasive alien vegetation species prior to any site clearing/development to ensure that indigenous vegetation can recover and rehabilitate more easily. Limit construction activities to specified days and times. Clear the site in a phase manner to reduce dust pollution. Only indigenous vegetation permitted in the place of the loss of remaining on-site natural vegetation/habitat. Appointing an ECO to oversee construction to further minimise the potential for unnecessary direct or indirect impacts during the construction as well as the operational phase of the development. Implement resource conservation measures as part of the design, construction and operational phases. Implement Environmental Management Plan under ECO supervision. <p>3. Reduce</p> <ul style="list-style-type: none"> Ensure that an ECO inspects the property regularly during construction to monitor for (A) invasive alien vegetation and (B) encroachment into the delineated wetland habitat.

4. Rectify

None necessary.

5. Off-Site

Construction and maintenance vehicles must be limited to the prescribed access routes.

SECTION J: GENERAL

1. ENVIRONMENTAL IMPACT STATEMENT

1.1.	Provide a summary of the key findings of the EIA.												
<ul style="list-style-type: none"> From a spatial planning perspective the development proposal is deemed to be in line with Western Cape SDF, George Municipality SDF and IDP, particularly considering development of vacant land within the urban context; The development proposal is likely to contribute to positive socio-economic impacts through employment opportunities created during construction phases as well as increasing bulk water supply capacity for George Municipality. The site development layout plan avoids sensitive delineated wetland habitat areas and design of stormwater management was informed by specialist input. Services (electrical) are available through existing municipal supply. All specialist findings and mitigation measures have been considered and incorporated into the preferred alternative. 													
1.2.	Provide a map that that superimposes the preferred activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers. (Attach map to this BAR as Appendix B2)												
<p>The preferred alternative is representative of an overlay of the environmentally sensitive features (only features of concern) with the development proposal avoiding it.</p>													
1.3.	Provide a summary of the positive and negative impacts and risks that the proposed activity or development and alternatives will have on the environment and community.												
<table border="1"> <thead> <tr> <th data-bbox="201 1350 842 1406">Positive</th> <th data-bbox="850 1350 1489 1406">Negative</th> </tr> </thead> <tbody> <tr> <td data-bbox="201 1417 842 1552">Optimising vacant land in an urban context.</td> <td data-bbox="850 1417 1489 1552">Temporary noise, dust and safety impacts associated with the movement of heavy vehicles.</td> </tr> <tr> <td data-bbox="201 1563 842 1697">Temporary employment opportunities during construction (to semi-skilled and un-skilled workers mostly).</td> <td data-bbox="850 1563 1489 1697">Loss of approximately 1.6ha of vegetation, albeit highly transformed/degraded.</td> </tr> <tr> <td data-bbox="201 1709 842 1843">Temporary employment opportunities during the construction (to local businesses and suppliers).</td> <td data-bbox="850 1709 1489 1843">Temporary risk of increased crime during construction.</td> </tr> <tr> <td data-bbox="201 1854 842 1944">Support for local economic development and future expansion</td> <td data-bbox="850 1854 1489 1944">Temporary increase in construction vehicle traffic.</td> </tr> <tr> <td data-bbox="201 1955 842 2045">Increase in bulk water supply capacity for local Municipality.</td> <td data-bbox="850 1955 1489 2045">Continued maintenance cost (alien clearing, access control, clearing of dumped materials).</td> </tr> </tbody> </table>		Positive	Negative	Optimising vacant land in an urban context.	Temporary noise, dust and safety impacts associated with the movement of heavy vehicles.	Temporary employment opportunities during construction (to semi-skilled and un-skilled workers mostly).	Loss of approximately 1.6ha of vegetation, albeit highly transformed/degraded.	Temporary employment opportunities during the construction (to local businesses and suppliers).	Temporary risk of increased crime during construction.	Support for local economic development and future expansion	Temporary increase in construction vehicle traffic.	Increase in bulk water supply capacity for local Municipality.	Continued maintenance cost (alien clearing, access control, clearing of dumped materials).
Positive	Negative												
Optimising vacant land in an urban context.	Temporary noise, dust and safety impacts associated with the movement of heavy vehicles.												
Temporary employment opportunities during construction (to semi-skilled and un-skilled workers mostly).	Loss of approximately 1.6ha of vegetation, albeit highly transformed/degraded.												
Temporary employment opportunities during the construction (to local businesses and suppliers).	Temporary risk of increased crime during construction.												
Support for local economic development and future expansion	Temporary increase in construction vehicle traffic.												
Increase in bulk water supply capacity for local Municipality.	Continued maintenance cost (alien clearing, access control, clearing of dumped materials).												

Areas of highest biodiversity value on the preferred site will be retained.	Additional pressure on non-renewable services.
Invasive alien species will be continuously managed.	Increased operational traffic during peak periods impacting on Olympic Street and Beach Road.

2. RECOMMENDATION OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER ("EAP")

2.1.	Provide Impact management outcomes (based on the assessment and where applicable, specialist assessments) for the proposed activity or development for inclusion in the EMPr
	<ul style="list-style-type: none"> • Appoint an Environmental Control Officer (ECO) to oversee activities prior to the construction phase commencing and keep the ECO appointed for the duration of each of the construction phases. • Appoint an aquatic specialist to ensure correct demarcation of the wetland areas. • Ensure that the study site is cleared of all NEMBA listed invasive alien vegetation prior to any development commencing to help remnant indigenous habitat restore and rehabilitate. • Survey and demarcate the 21m buffer area of the delineated wetland habitats prior to development commencing to ensure that no development goes beyond this line. • Implement and adhere to an approved Environmental Management Plan. • Implement and adhere to ongoing invasive alien management programme during construction as well as operational phases. • All landscaping must be indigenous vegetation in replacement of the loss of secondary vegetation/habitat. • Restrict working times and hours to minimise noise/dust pollution. • Employ minimum 50% local labour. • Source minimum 50% construction materials locally. • Resource conservation measures must be implemented.
2.2.	Provide a description of any aspects that were conditional to the findings of the assessment either by the EAP or specialist that must be included as conditions of the authorisation.
	Please refer to section 2.1, 2.3, 3, 4 and 5 below.
2.3.	Provide a reasoned opinion as to whether the proposed activity or development should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be included in the authorisation.
	<p>The proposed activity can be considered for environmental authorisation for the following reasons:</p> <ul style="list-style-type: none"> • The site is not deemed sensitive and the preferred design layout avoids more sensitive areas (delineated wetland habitats); • The loss of approximately 1.6ha of vegetation (highly transformed/degraded and not representative of historical fynbos vegetation) within the larger Remainder of Erf 325 is deemed acceptable on condition that the prescribed pre-construction, construction and operational conditions are adhered to. <p>PRE-CONSTRUCTION:</p> <ul style="list-style-type: none"> • Development may not proceed until such time as all approvals are obtained. • An ECO must be appointed prior to construction to oversee site preparation, vegetation removal and construction and remain appointed for the construction of each phase. • 21m buffer area along the delineated wetland habitat areas must be surveyed and demarcated prior to any site clearing/development commencing to ensure that no encroachment happens into this sensitive area.

- Aquatic specialist must be appointed to ensure that wetland delineation is done accurately and correctly.
- Representative number wetland plants (from artificial wetland puddles) to be rescued and transplanted prior to construction in a particular area.
- Aquatic specialist to oversee the search/rescue/transplanting.
- All NEMA listed invasive alien vegetation must be removed from the 1.6ha site prior to development commencing – ECO to verify.
- ECO to demarcate all “No-Go” areas prior to any site clearing or development activities commencing (in conjunction with aquatic specialist).

CONSTRUCTION:

- ECO must be appointed for the duration of the construction phase and must inspect site activities on a regular basis to ensure compliance with the EA and EMP;
- Clearing of vegetation must be planned in phases to avoid large open areas that will be vacant for periods of time and that could result in unwanted dust pollution;
- EMPr must be implemented and adhered to.

2.4. Provide a description of any assumptions, uncertainties and gaps in knowledge that relate to the assessment and mitigation measures proposed.

The EAP assumes that the necessary approvals such as planning approvals / building plan approvals and contracts i.e., service level agreements, will be finalised within the initial five (5) year commencement period.

2.5. The period for which the EA is required, the date the activity will be concluded and when the post construction monitoring requirements should be finalised.

Five (5)-year validity period for the EA from date of authorisation to commence with construction.
Fifteen (15) year implementation period from implementation to completion of the project.

3. WATER

Since the Western Cape is a water scarce area explain what measures will be implemented to avoid the use of potable water during the development and operational phase and what measures will be implemented to reduce your water demand, save water and measures to reuse or recycle water.

Potable water may not be used during the construction phase.

The proposed development will not make use of water during the operational phase.

4. WASTE

Explain what measures have been taken to reduce, reuse or recycle waste.

The contractor must provide recycle bins on the property during construction and must ensure that staff is aware of what products can be recycled/reused.

No waste will be generated during the operational phase.

5. ENERGY EFFICIENCY

8.1. Explain what design measures have been taken to ensure that the development proposal will be energy efficient.

Only LED lights must be used within the development.

SECTION K: DECLARATIONS

1. DECLARATION OF THE APPLICANT

Note: Duplicate this section where there is more than one Applicant.

I **Johannes Franciscus Koegelenberg**, ID number**790608 5048 081**..... in my personal capacity or duly authorised thereto hereby declare/affirm that all the information submitted or to be submitted as part of this application form is true and correct, and that:

- I am fully aware of my responsibilities in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA"), the Environmental Impact Assessment ("EIA") Regulations, and any relevant Specific Environmental Management Act and that failure to comply with these requirements may constitute an offence in terms of relevant environmental legislation;
- I am aware of my general duty of care in terms of Section 28 of the NEMA;
- I am aware that it is an offence in terms of Section 24F of the NEMA should I commence with a listed activity prior to obtaining an Environmental Authorisation;
- I appointed the Environmental Assessment Practitioner ("EAP") (if not exempted from this requirement) which:
 - meets all the requirements in terms of Regulation 13 of the NEMA EIA Regulations; or
 - meets all the requirements other than the requirement to be independent in terms of Regulation 13 of the NEMA EIA Regulations, but a review EAP has been appointed who does meet all the requirements of Regulation 13 of the NEMA EIA Regulations;
- I will provide the EAP and any specialist, where applicable, and the Competent Authority with access to all information at my disposal that is relevant to the application;
- I will be responsible for the costs incurred in complying with the NEMA EIA Regulations and other environmental legislation including but not limited to –
 - costs incurred for the appointment of the EAP or any legitimately person contracted by the EAP;
 - costs in respect of any fee prescribed by the Minister or MEC in respect of the NEMA EIA Regulations;
 - Legitimate costs in respect of specialist(s) reviews; and
 - the provision of security to ensure compliance with applicable management and mitigation measures;
- I am responsible for complying with conditions that may be attached to any decision(s) issued by the Competent Authority, hereby indemnify, the government of the Republic, the Competent Authority and all its officers, agents and employees, from any liability arising out of the content of any report, any procedure or any action for which I or the EAP is responsible in terms of the NEMA EIA Regulations and any Specific Environmental Management Act.

Note: If acting in a representative capacity, a certified copy of the resolution or power of attorney must be attached.

2023/09/05

Signature of the Applicant:

Date:

Name of company (if applicable):

2. DECLARATION OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER (“EAP”)

I, **Ms Louise-Mari van Zyl**, EAPASA Registration number**2019/1444**..... as the appointed EAP hereby declare/affirm the correctness of the information provided or to be provided as part of this Draft Basic Assessment Report, and that:

I, **Mr Francois Byleveld**, EAPASA Registration number**2023/6770**..... as the appointed Candidate EAP hereby declare/affirm the correctness of the information provided or to be provided as part of this Draft Basic Assessment Report, and that:

- Information provided in this BAR and any other documents/reports submitted in support of this BAR;
- The inclusion of comments and inputs from stakeholders and I&APs;
- The inclusion of inputs and recommendations from the specialist reports where relevant; and
- Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties, and that:
- In terms of the general requirement to be independent:
 - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the activity or application and that there are no circumstances that may compromise my objectivity; or
 - am not independent, but another EAP that meets the general requirements set out in Regulation 13 of NEMA EIA Regulations has been appointed to review my work (Note: a declaration by the review EAP must be submitted);
- In terms of the remainder of the general requirements for an EAP, am fully aware of and meet all of the requirements and that failure to comply with any the requirements may result in disqualification;
- I have disclosed, to the Applicant, the specialist (if any), the Competent Authority and registered interested and affected parties, all material information that have or may have the potential to influence the decision of the Competent Authority or the objectivity of any report, plan or document prepared or to be prepared as part of this application;
- I have ensured that information containing all relevant facts in respect of the application was distributed or was made available to registered interested and affected parties and that participation will be facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments;
- I have ensured that the comments of all interested and affected parties were considered, recorded, responded to and submitted to the Competent Authority in respect of this application;
- I have ensured the inclusion of inputs and recommendations from the specialist reports in respect of the application, where relevant;
- I have kept a register of all interested and affected parties that participated in the public participation process; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations;

 2023/09/05

 Signature of the EAP: Date:

 2023/09/05

 Signature of the Candidate EAP: Date:

Cape Environmental Assessment Practitioners (Cape EAPrac)
 Name of company (if applicable):

3. DECLARATION OF THE REVIEW EAP

I , EAPASA Registration number as the appointed Review EAP hereby declare/affirm that:

- I have reviewed all the work produced by the EAP;
- I have reviewed the correctness of the information provided as part of this Report;
- I meet all of the general requirements of EAPs as set out in Regulation 13 of the NEMA EIA Regulations;
- I have disclosed to the applicant, the EAP, the specialist (if any), the review specialist (if any), the Department and I&APs, all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations.

Click or tap to enter a date.

Signature of the EAP: _____ Date: _____

Name of company (if applicable): _____

4. DECLARATION OF THE SPECIALIST [TO BE SIGNED FOR FINAL BAR]

Note: Duplicate this section where there is more than one specialist.

I ~~.....~~, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that:

- ~~• In terms of the general requirement to be independent:

 - ~~○ other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or~~
 - ~~○ am not independent, but another specialist (the "Review Specialist") that meets the general requirements set out in Regulation 13 of the NEMA EIA Regulations has been appointed to review my work (Note: a declaration by the review specialist must be submitted);~~~~
- ~~• In terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all of the requirements;~~
- ~~• I have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared or to be prepared as part of the application; and~~
- ~~• I am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations.~~

~~.....~~ Click or tap to enter a date.

Signature of the EAP: _____ Date: _____

~~.....~~

Name of company (if applicable): _____

5. DECLARATION OF THE REVIEW SPECIALIST

I _____, as the appointed Review Specialist hereby declare/affirm that:

- I have reviewed all the work produced by the Specialist(s);
- I have reviewed the correctness of the specialist information provided as part of this Report;
- I meet all of the general requirements of specialists as set out in Regulation 13 of the NEMA EIA Regulations;
- I have disclosed to the applicant, the EAP, the review EAP (if applicable), the Specialist(s), the Department and I&APs, all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations.

_____ Click or tap to enter a date.

Signature of the EAP: _____ Date:

Name of company (if applicable):