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## TERMS OF REFERENCE FOR TERRESTRIAL PLANT SPECIALIST ASSESSMENT REPORT OR COMPLIANCE STATEMENT

### PROPOSED UPGRADING OF THE HEROLD'S BAY PUMP STATION AND PIPELINES

#### 1. INTRODUCTION

Sharples Environmental Services cc (SES) has been appointed as the independent Environmental Assessment Practitioner (EAP) to conduct the environmental impact assessment for the proposed upgrade and development of the Herold's Bay pump station and pipelines, George Municipality, Western Cape.

The properties involved are Erf 116, Erf 113 Remainder of Erf 95, Remainder of Farms 236 and 237 and Portions 10, 35 and 37 of Farm Brakfontein No. 236, Herold's Bay.

#### 1.1 Location of the proposal

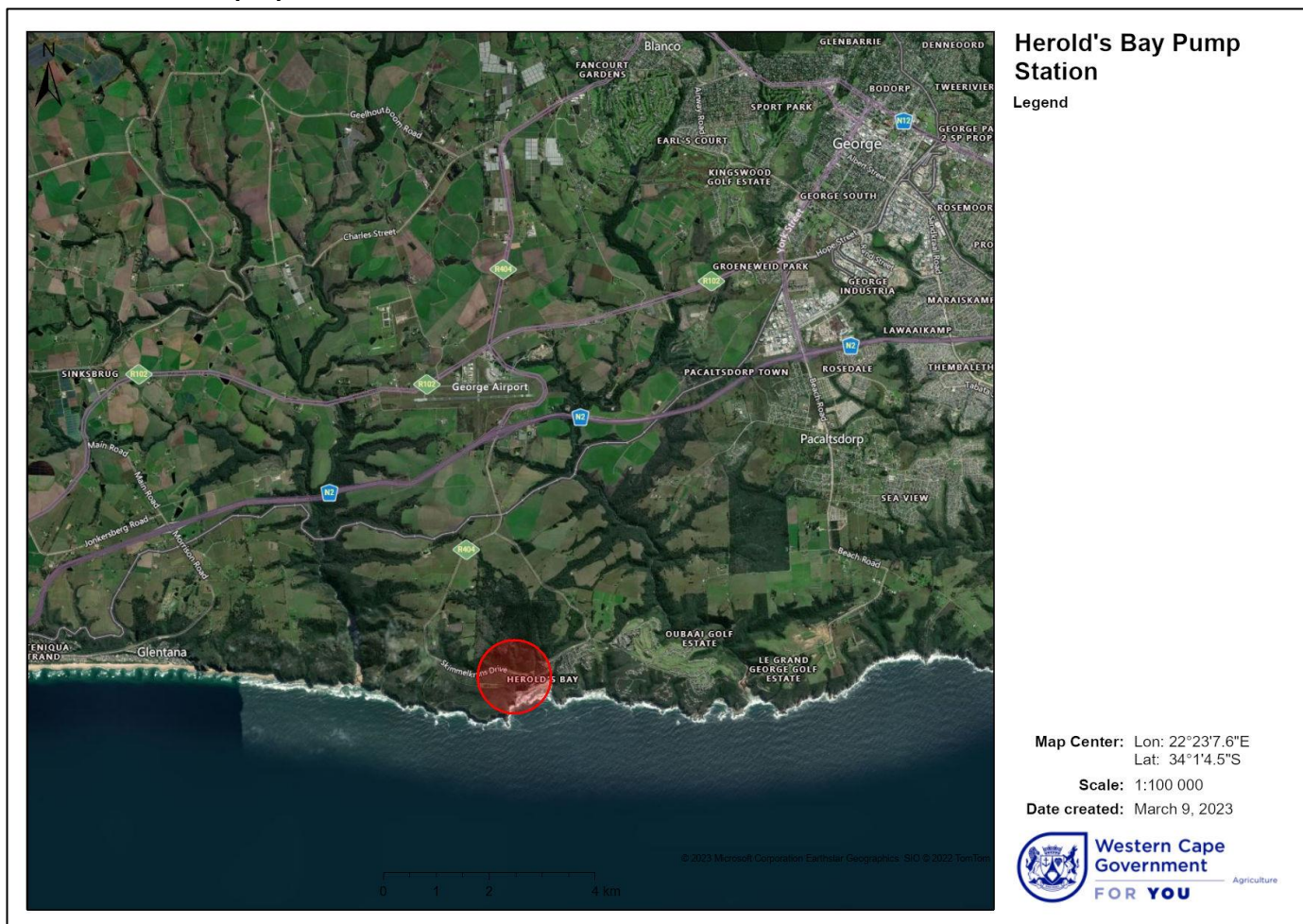


Figure 1: Locality Map

## 2. PROJECT DESCRIPTION

SMEC South Africa (Pty) Ltd has been appointed by the George Local Municipality for the Upgrading of Herold's Bay Sewer Pump Station and associated rising main.

The study area includes the following:

- The upgrading of the existing Pump Station No. 1 (PS 1)
- Construction of a new screening and de-gritting pump station (PS 2)
- Construction of a new 250mm diameter rising main parallel to the existing rising main from the New Screening and De-gritting Pump Station (PS2) to the Herold's Bay WWTW's
- Construction of a new rising main from the Herold's Bay Pump Station (PS 1) to the new screening and de-gritting pump station

### ADDITION TO PROJECT (PREFERRED ALTERNATIVE)

After recent meetings with the engineers and George Municipality, it has become evident that the initial plinths for the steep section will not be possible due to Engineering and financial restraints, as such they propose to bury the whole route of the pipeline. We will still keep that option in our report as an Alternative.

The following was discussed:

- A permanent access road will be constructed for maintenance purposes in the event of failures
- The pipeline will be buried
- A 30m corridor around the pipeline will be needed for the insertion of the pipeline (in the event of rock, out crops, etc. being located on the route and the pipeline needs to shift slightly.)
- Within that 30m corridor a 10m-12m working area footprint is expected to be disturbed
- Within that 10m-12m working area a 3m permanent disturbance/scar will remain (for the maintenance road)

Please add this alternative to your report in line with the abovementioned.



Figure 2: The proposed scope of work.

## 3. SCREENING TOOL REPORT

A screening report was completed on 30 November 2022 (Appendix B). A **“High”** environmental sensitivity rating was indicated for the Plant Species theme. As per the procedures for the assessment and minimum criteria for reporting on identified environmental themes (Terrestrial Plant Species) in terms of Sections

24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation (October 2020), "An applicant intending to undertake an activity identified in the scope of this protocol, on a site identified by the screening tool as being of "very high" or "high" sensitivity for terrestrial plant species, must submit a Terrestrial Plant Species Specialist Assessment Report". "Where the information gathered from the site sensitivity verification differs from the screening tool designation of "very high" or "high" for terrestrial plant species sensitivity on the screening tool, and it is found to be of a "low" sensitivity, then a Terrestrial Plant Species Compliance Statement must be submitted."

The sensitive species identified in the Screening tool report:

Sensitivity	Feature(s)
High	<i>Euchaetis albertiniana</i>
Medium	<i>Lampranthus pauciflorus</i>
Medium	<i>Lebeckia gracilis</i>
Medium	<i>Erica unicolor</i> subsp. <i>mutica</i>
Medium	<i>Erica glandulosa</i> subsp. <i>fourcadei</i>
Medium	<i>Hermannia lavandulifolia</i>
Medium	Sensitive species 1024
Medium	Sensitive species 1032
Medium	<i>Euchaetis albertiniana</i>
Medium	Sensitive species 516
Medium	Sensitive species 800
Medium	Sensitive species 500
Medium	<i>Diosma passerinoides</i>

#### 4. SPECIALIST INVOLVEMENT

The purpose of this study is to determine if a Terrestrial Plant Species Specialist Assessment or a Compliance Statement is required as per the proposed site, by ascertaining the status and presence of the Species of Conservation Concern and assessing the potential impact of the proposed changes in the development layout on the biophysical environment. Thereafter, either a Terrestrial Animal Species Specialist Assessment or a Compliance Statement should be undertaken, based on the presence of SCC, as per the Gazetted Protocol:

[https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted\\_Plant\\_Species\\_Assessment\\_Protocols.pdf](https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Plant_Species_Assessment_Protocols.pdf)

The report should not be limited to this brief. Where the specialist sees the necessity for providing other vital information or investigations, this should be included.

The specialist conducting this study must:

- Be independent and have expertise in conducting similar assessments.
- Have a suitable academic qualification in the relative field.
- Be registered with the South African Council for Natural Scientific Professionals (SACNASP).
- Be familiar with the assessment criteria commonly used in the EIA Process to assess and evaluate impacts, as well as the newly promulgated Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes (March 2020).
- Have good knowledge relating to assessment techniques and to relevant legislation, policies and guidelines.
- Perform the work in an objective manner, even if this results in views and findings that are not favourable to the applicant.

##### 4.1 Terms of Reference



The assessment of the proposal will necessitate specialist input which will need to be undertaken with the Terms of Reference listed below and relevant specialist guidelines. In addition to meeting the requirements of the relevant legislation, Terrestrial Plant Specialist Assessment reports should also meet those of the Guideline for Involving Terrestrial Plant Species Assessments in the EIA Processes and the relevant Gazetted Protocols. The Terrestrial Plant Species specialist must have no financial or other vested interest in the proposed development and must be professionally registered with the South African Council for Natural Scientific Professionals (SACNASP).

### **Phase 1 (Status Quo Assessment)**

- ✓ The assessment must contextualize the study area in order to provide a baseline description of the ecological system, the terrestrial plant biodiversity and any significant terrestrial features must be provided.
- ✓ The assessment must identify the following;
  - ✓ Terrestrial critical biodiversity areas (CBAs)
  - ✓ Terrestrial ecological support areas (ESAs)
  - ✓ Protected areas as defined by the National Environmental Management: Protected Areas Act, 2004
  - ✓ Priority areas for protected area expansion
  - ✓ Indigenous forests
- ✓ Undertake a site visit and ground-truth biodiversity information. Where required, undertake baseline surveys and/or studies to supplement the information base and inform the assessment.
- ✓ Estimate the trajectory of change in the context of the 'No-Go' Alternative due to existing impacts.
- ✓ Assessment criteria to be aligned with the promulgated Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes (October 2020).

Following the site verification visit, in which the Specialist confirms the presence, likely presence or confirmed absence of a SCC identified within the site identified as "medium" sensitivity by the screening tool, the Specialist is to confirm the need for a Compliance Statement or a Terrestrial Plant Species Assessment and undertake this report/statement in accordance with the Gazetted Protocol (October 2020).

### **If a Compliance Statement is Required:**

- ✓ Specialist must SACNASP registered under one of the two fields of practice (Botanical Science or Ecological Science).
  - The compliance statement must:
    - be applicable within the study area;
    - confirm that the study area is of "low" sensitivity for terrestrial plant species; and
    - indicate whether or not the proposed development will have any impact on SCC.
- ✓ Minimum Requirements Include:
  - contact details and relevant experience as well as the SACNASP registration number of the specialist preparing the compliance statement including a curriculum vitae;
  - a signed statement of independence by the specialist;
  - a statement on the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;
  - a description of the methodology used to undertake the site survey and prepare the compliance statement, including equipment and modelling used where relevant;
  - where required, proposed impact management actions and outcomes or any monitoring requirements for inclusion in the EMPr;
  - a description of the assumptions made and any uncertainties or gaps in knowledge or data;
  - the mean density of observations/ number of samples sites per unit area; and
  - any conditions to which the compliance statement is subjected.

### **Phase 2 (If a Terrestrial Plant Specialist Assessment Report is Required)**

- ✓ In accordance with the Gazetted Protocols, the findings of the assessment must be written up in a Terrestrial Plant Specialist Assessment Report.
- ✓ Terrestrial Plant Specialist Assessment Report must include the following;
  - ✓ The Identification, prediction and description of potential impacts on terrestrial ecology during the construction and operational phases of the project. Impacts are described in terms of their extent, intensity, and duration. The other aspects that must be included in the evaluation are probability, reversibility, irreplaceability, mitigation potential, and confidence in the evaluation.
  - ✓ This must be undertaken for all of the alternatives and must be rated with and without mitigation to determine the significance of the impacts.
  - ✓ The degree to which the impacts and risks can cause loss of irreplaceable resources.

- ✓ Recommend actions that should be taken to avoid impacts on sensitive ecology, in alignment with the mitigation hierarchy, and any measures necessary to restore disturbed areas or ecological processes.
- ✓ Identify areas of high importance or sensitivity on which impacts should *preferably* be avoided or prevented or, where they cannot altogether be avoided, should at least be *minimized* (e.g. through buffers or setbacks).
- ✓ Identify areas that are known to be important for biodiversity but are degraded or invaded by alien species and require rehabilitation/restoration, including areas that could improve connectivity and reduce fragmentation in the landscape.
- ✓ An accurate description and map of the areas and features of importance to biodiversity and their sensitivity to the proposed development. Possibly recommend alternatives.
- ✓ Rehabilitation guidelines for disturbed areas associated with the proposed project.
- ✓ Any monitoring protocol that is deemed necessary
- ✓ A substantiated statement, based on the findings of the specialist assessment, regarding the acceptability, or not, of the proposed development, if it should receive approval or not must be included
- ✓ Minimum requirements for report content include that the assessment must be undertaken in accordance with the Species Environmental Assessment Guideline and must:
  - Identify the SCC which were found, observed or are likely to occur within the study area;
  - provide evidence (photographs) of each SCC found or observed within the study area, which must be disseminated by the specialist to a recognized online database facility<sup>9</sup> immediately after the site inspection has been performed
  - identify the distribution, location, viability and detailed description of population size of the SCC identified within the study area;
  - identify the nature and the extent of the potential impact of the proposed development to the population of the SCC located within the study area;
  - determine the importance of the conservation of the population of the SCC identified within the study area, based on information available in national and international databases including the IUCN Red List of Threatened Species, South African Red List of Species, and/or other relevant databases;
  - determine the potential impact of the proposed development on the habitat of the SCC located within the study area;
  - include a review of relevant literature on the population size of the SCC, the conservation interventions as well as any national or provincial species management plans for the SCC.
  - This review must provide information on the need to conserve the SCC and indicate whether the development is compliant with the applicable species management plans and if not, a motivation for the deviation;
  - identify any dynamic ecological processes occurring within the broader landscape, that might be disrupted by the development and result in negative impact on the identified SCC, for example, fires in fire-prone systems;
  - identify any potential impact on ecological connectivity within the broader landscape, and resulting impacts on the identified SCC and its long-term viability;
  - determine buffer distances as per the Species Environmental Assessment Guidelines used for the population of each SCC; and
  - discuss the presence or likelihood of additional SCC including threatened species not identified by the screening tool, Data Deficient or Near Threatened Species, as well as any undescribed species and
  - identify any alternative development footprints within the preferred development site which would be of "low" sensitivity" or "medium" sensitivity as identified by the screening tool and verified through the site sensitivity verification.

## General

- ✓ Reference all sources of information and/or data used.
- ✓ Indicate limitations and assumptions, particularly in relation to seasonality.
- ✓ Description of the methodology adopted in preparing the report
- ✓ Provide a reasoned opinion as to whether the proposed activity should be authorised
- ✓ The specialist and the report must comply with the following guidelines and legislation:

- ✓ Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of Sections 24(5)(A) and (H) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation.
- ✓ Fynbos forum. 2016. *Ecosystem guidelines for environmental assessment in the Western Cape*. Cape town.
- ✓ Brownlie, S. 2005. *Guideline for involving biodiversity specialists in EIA processes: Edition 1*. CSIR Report No ENV-S-C 2005 053 C. Republic of South Africa, Provincial Government of the Western Cape, Department of Environmental Affairs & Development Planning, Cape Town.
- ✓ Any national, provincial and municipal biodiversity and development planning documents must be consulted where available.
- ✓ The report should be prepared in a suitable font and submitted to SES in draft form.
- ✓ Minimum requirements as per the Gazetted Protocol includes:
  - contact details and relevant experience as well as the SACNASP registration number of the specialist preparing the assessment including a curriculum vitae;
  - a signed statement of independence by the specialist;
  - a statement on the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;
  - a description of the methodology used to undertake the site sensitivity verification and impact assessment and site inspection, including equipment and modelling used where relevant;
  - a description of the assumptions made and any uncertainties or gaps in knowledge or data;
  - a description of the mean density of observations/number of samples sites per unit area of site inspection observations;
  - details of all SCC found or suspected to occur on site, ensuring sensitive species are appropriately reported;
  - the online database name, hyperlink and record accession numbers for disseminated evidence of SCC found within the study area;
  - the location of areas not suitable for development and to be avoided during construction where relevant;
  - a discussion on the cumulative impacts;
  - impact management actions and impact management outcomes proposed by the specialist for inclusion in the Environmental Management Programme (EMPr);
  - a reasoned opinion, based on the findings of the specialist assessment, regarding the acceptability or not, of the development related to the specific theme considered, and if the development should receive approval or not, related to the specific theme being considered, and any conditions to which the opinion is subjected if relevant; and
  - a motivation must be provided if there were any development footprint alternatives identified as having "low" or "medium" terrestrial plant species sensitivity and were not considered appropriate.
- ✓ Ensure it is clear that the mitigation hierarchy has been applied, in order, when recommendations and mitigation is applied.
- ✓ Ensure that there are no conflicting recommendations or conclusions.
- ✓ Ensure the EAP is provided with working files, i.e.: KML/KMZ/Shapefiles and if a buffer is recommended, please ensure relevant table of coordinates are provided.

#### 4.2 Quotation Details

Please provide a written quote for all Phases, including a break-down of costs and indicate your availability to commence the study.

### 5. EXPECTED DELIVERABLES

An initial draft report covering the above requirements must be submitted to SES **four weeks** after the notice to proceed with above scope of work. The report must be prepared in a suitable font (such as Arial 12) and the format and content must comply with Appendix 6 of the amended EIA Regulations, 2017, as well as the Promulgated Protocols relating to Plant Species (dated Oct 2020). The final report (which shall include any reasonable amendments in response to the EAP's comments on the initial draft, if necessary) shall be delivered **two weeks** after the draft report, assuming the EAP shall have provided comments within a week after receiving the initial draft report.



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## TERMS OF REFERENCE FOR A TERRESTRIAL ANIMAL SPECIES ASSESSMENT / COMPLIANCE STATEMENT

### PROPOSED UPGRADING OF THE HEROLD'S BAY PUMP STATION AND PIPELINES

#### 1. INTRODUCTION

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The properties involved are Erf 116, Erf 113 Remainder of Erf 95, Remainder of Farms 236 and 237 and Portions 10, 35 and 37 of Farm Brakfontein No. 236, Herold's Bay.

#### 1.1 Location of the proposal

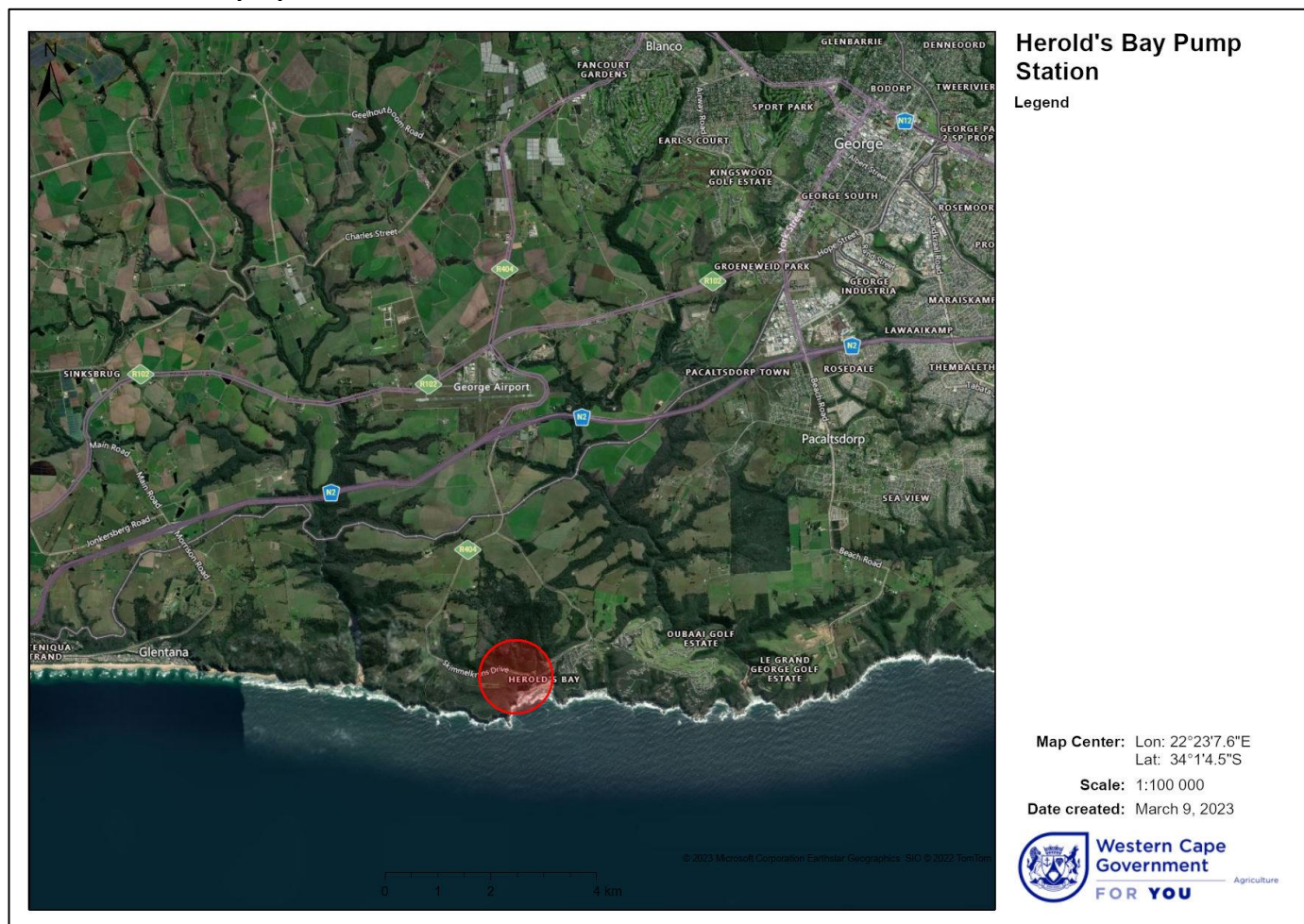


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## 2. PROJECT DESCRIPTION

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After recent meetings with the engineers and George Municipality, it has become evident that the initial plinths for the steep section will not be possible due to Engineering and financial restraints, as such they propose to bury the whole route of the pipeline. We will still keep that option in our report as an Alternative.

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- Within that 30m corridor a 10m-12m working area footprint is expected to be disturbed
- Within that 10m-12m working area a 3m permanent disturbance/scar will remain (for the maintenance road)

Please add this alternative to your report in line with the abovementioned.



Figure 2: The proposed scope of work.

## 3. SCREENING TOOL REPORT

A screening report was completed on 30 November 2022 (Appendix B). A **"High"** environmental sensitivity rating was indicated for the Animal theme. As per the procedures for the assessment and minimum criteria for reporting on identified environmental themes (Terrestrial Animal Species) in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental

Authorisation (October 2020), 1.1 “An applicant intending to undertake an activity identified in the scope of this protocol, on a site identified by the screening tool as being of “very high” or “high” sensitivity for terrestrial animal species must submit a Terrestrial Animal Species Specialist Assessment Report”. 1.4 “Where the information gathered from the site sensitivity verification differs from the screening tool designation of “very high” or “high”, for terrestrial animal species sensitivity and it is found to be of a “low” sensitivity, then a Terrestrial Animal Species Compliance Statement must be submitted.’

**Table 1: Features (DEA Screening Tool).**

Sensitivity	Feature(s)
High	Aves-Circus ranivorus
High	Aves-Bradypterus sylvaticus
Medium	Sensitive species 8
Medium	Invertebrate-Aneuryphymus montanus

- Sensitive Species 8 - *Philantomba monticola*

Therefore, Specialist input is required to address this sensitivity.

#### 4. SPECIALIST INVOLVEMENT

The purpose of this study is to determine if a Terrestrial Animal Species Specialist Assessment or a Compliance Statement is required, by ascertaining the status and presence of the Species of Conservation Concern and assess the potential impact of the proposed development on the biophysical environment. Thereafter, either a Terrestrial Animal Species Specialist Assessment or a Compliance Statement should be undertaken, based on the presence of SCC, as per the Gazetted Protocol: [https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted\\_Animal\\_Species\\_Assessment\\_Protocols.pdf](https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Animal_Species_Assessment_Protocols.pdf)

The report should not be limited to this brief. Where the specialist sees the necessity for providing other vital information or investigations, this should be included.

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- Be independent and have expertise in conducting similar assessments.
- Have a suitable academic qualification in the relative field.
- Be registered with the South African Council for Natural Scientific Professionals (SACNASP).
- Be familiar with the assessment criteria commonly used in the EIA Process to assess and evaluate impacts, as well as the newly promulgated Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes (March 2020).
- Have good knowledge relating to assessment techniques and to relevant legislation, policies and guidelines.
- Perform the work in an objective manner, even if this results in views and findings that are not favourable to the applicant.

##### 4.1 Terms of Reference

The assessment of the proposal will necessitate specialist input which will need to be undertaken with the Terms of Reference listed below and relevant specialist guidelines. In addition to meeting the requirements of the relevant legislation, the Terrestrial Animal Species Assessment or Compliance Statement should also meet those of the Guideline for Involving Biodiversity Specialists in EIA Processes and the relevant Gazetted Protocols. The Terrestrial Biodiversity specialist must have no financial or other vested interest in the proposed development and must be professionally registered with the South African Council for Natural Scientific Professionals (SACNASP).

#### Phase 1 (Status Quo Assessment)

- ✓ The assessment must contextualize the study area in order to provide a baseline description of the ecological system, the terrestrial biodiversity and any significant terrestrial features must be provided.
- ✓ The assessment must identify the following:
  - ✓ Terrestrial critical biodiversity areas (CBAs)
  - ✓ Terrestrial ecological support areas (ESAs)
  - ✓ Protected areas as defined by the National Environmental Management: Protected Areas Act, 2004
  - ✓ Priority areas for protected area expansion
  - ✓ Strategic water source areas (SWSAs)
  - ✓ Freshwater ecosystem priority area (FEPA) sub catchments
  - ✓ Indigenous forests
- ✓ Undertake a site visit and ground-truth biodiversity information. Where required, undertake baseline surveys and/or studies to supplement the information base and inform the assessment. The site inspection to determine the presence or likely presence of SCC must be undertaken in accordance with the Species Environmental Assessment Guidelines.
- ✓ Estimate the trajectory of change in the context of the 'No-Go' Alternative due to existing impacts.
- ✓ Assessment criteria to be aligned with the promulgated Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes (October 2020).

Following the site verification visit, in which the Specialist confirms the presence, likely presence or confirmed absence of a SCC identified within the site identified as "medium" sensitivity by the screening tool, the Specialist is to confirm the need for a Compliance Statement or a Terrestrial Animal Species Assessment and undertake this report/statement in accordance with the Gazetted Protocol (October 2020).

#### **Phase 2: If a Compliance Statement is Required**

- ✓ The Compliance Statement must:
  - be applicable to the study area;
  - confirm that the study area, is of "low" sensitivity for terrestrial animal species; and
  - indicate whether or not the proposed development will have any impact on SCC.
- ✓ Minimum requirements include:
  - contact details and relevant experience as well as the SACNASP registration number of the specialist preparing the compliance statement including a curriculum vitae;
  - a signed statement of independence by the specialist;
  - a statement on the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;
  - a description of the methodology used to undertake the site survey and prepare the compliance statement, including equipment and modelling used where relevant;
  - the mean density of observations/ number of samples sites per unit area.
  - where required, proposed impact management actions and outcomes or any monitoring requirements for inclusion in the EMPr (if none are required, this should be stated);
  - a description of the assumptions made and any uncertainties or gaps in knowledge or data; and
  - any conditions to which the compliance statement is subjected

#### **Phase 2 (If a Terrestrial Animal Species Specialist Assessment Report is Required)**

- ✓ In accordance with the Gazetted Protocols, the findings of the assessment must be written up in a Terrestrial Animal Species Specialist Assessment Report.
- ✓ Terrestrial Animal Species Specialist Assessment Report must include the following:
  - The Identification, prediction and description of potential impacts on terrestrial ecology during the construction and operational phases of the project. Impacts are described in terms of their extent, intensity, and duration. The other aspects that must be included in the evaluation are probability, reversibility, irreplaceability, mitigation potential, and confidence in the evaluation.
  - This must be undertaken for all of the alternatives and must be rated with and without mitigation to determine the significance of the impacts.
  - The degree to which the impacts and risks can cause loss of irreplaceable resources.
  - Recommend actions that should be taken to avoid impacts on sensitive ecology, in alignment with the mitigation hierarchy, and any measures necessary to restore disturbed areas or ecological processes.

- Identify areas of high importance or sensitivity on which impacts should *preferably* be avoided or prevented or, where they cannot altogether be avoided, should at least be *minimized* (e.g. through buffers or setbacks).
- Identify areas that are known to be important for biodiversity but are degraded or invaded by alien species and require rehabilitation/restoration, including areas that could improve connectivity and reduce fragmentation in the landscape.
- An accurate description and map of the areas and features of importance to biodiversity and their sensitivity to the proposed development. Possibly recommend alternatives.
- Rehabilitation guidelines for disturbed areas associated with the proposed project.
- Any monitoring protocol that is deemed necessary
- ✓ A substantiated statement, based on the findings of the specialist assessment, regarding the acceptability, or not, of the proposed development, if it should receive approval or not must be included.
- ✓ As a minimum, as per the Gazetted Protocol (October 2020), the assessment must be undertaken in accordance with the Species Environmental Assessment Guideline; and must;
  - identify the SCC which were found, observed or are likely to occur within the study area;
  - provide evidence (photographs or sound recordings) of each SCC found or observed within the study area, which must be disseminated by the specialist to a recognized online database facility (the preferred platform is iNaturalist.org but any other national or international virtual museum), immediately after the site inspection has been performed;
  - identify the distribution, location, viability and provide a detailed description of population size of the SCC, identified within the study area;
  - identify the nature and the extent of the potential impact of the proposed development on the population of the SCC located within the study area;
  - determine the importance of the conservation of the population of the SCC identified within the study area, based on information available in national and international databases, including the IUCN Red List of Threatened Species, South African Red List of Species, and/or other relevant databases;
  - determine the potential impact of the proposed development on the habitat of the SCC located within the study area;
  - include a review of relevant literature on the population size of the SCC, the conservation interventions as well as any national or provincial species management plans for the SCC. This review must provide information on the need to conserve the SCC and indicate whether the development is compliant with the applicable species management plans and if not, include a motivation for the deviation;
  - identify any dynamic ecological processes occurring within the broader landscape that might be disrupted by the development and result in negative impact on the identified SCC, for example, fires in fire-prone systems;
  - identify any potential impact of ecological connectivity in relation to the broader landscape, resulting in impacts on the identified SCC and its long term viability;
  - determine buffer distances as per the Species Environmental Assessment Guidelines used for the population of each SCC;
  - discuss the presence or likelihood of additional SCC including threatened species not identified by the screening tool, Data Deficient or Near Threatened Species, as well as any undescribed species (should be assessed as "High Sensitivity"); or roosting and breeding or foraging areas used by migratory species where these species show significant congregations, occurring in the vicinity; and
  - identify any alternative development footprints within the preferred site which would be of "low" or "medium" sensitivity as identified by the screening tool and verified through the site sensitivity verification.

## General

- ✓ Reference all sources of information and/or data used.
- ✓ Indicate limitations and assumptions, particularly in relation to seasonality.
- ✓ Description of the methodology adopted in preparing the report
- ✓ Provide a reasoned opinion as to whether the proposed activity should be authorised



- ✓ The specialist and the report must comply with the following guidelines and legislation:
  - Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of Sections 24(5)(A) and (H) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation.
  - Fynbos forum. 2016. *Ecosystem guidelines for environmental assessment in the Western Cape*. Cape town.
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  - Any national, provincial and municipal biodiversity and development planning documents must be consulted where available.
- ✓ The report should be prepared in a suitable font and submitted to SES in draft form.
- ✓ Minimum general requirements include:
  - contact details and relevant experience as well as the SACNASP registration number of the specialist preparing the assessment including a curriculum vitae;
  - a signed statement of independence by the specialist;
  - a statement on the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;
  - a description of the methodology used to undertake the site sensitivity verification, impact assessment and site inspection, including equipment and modelling used where relevant;
  - a description of the mean density of observations/number of sample sites per unit area<sup>12</sup> and the site inspection observations;
  - a description of the assumptions made and any uncertainties or gaps in knowledge or data;
  - details of all SCC found or suspected to occur on site, ensuring sensitive species are appropriately reported;
  - the online database name, hyperlink and record accession numbers for disseminated evidence of SCC found within the study area;
  - the location of areas not suitable for development and to be avoided during construction where relevant;
  - a discussion on the cumulative impacts;
  - impact management actions and impact management outcomes proposed by the specialist for inclusion in the Environmental Management Programme (EMPr);
  - a reasoned opinion, based on the findings of the specialist assessment, regarding the acceptability or not of the development and if the development should receive approval or not, related to the specific theme being considered, and any conditions to which the opinion is subjected if relevant; and
  - a motivation must be provided if there were any development footprints identified as per paragraph.
  - above that were identified as having “low” or “medium” terrestrial animal species sensitivity and were not considered appropriate.
- ✓ Ensure it is clear that the mitigation hierarchy has been applied, in order, when recommendations and mitigation is applied.
- ✓ Ensure that there are no conflicting recommendations or conclusions.
- ✓ Ensure the EAP is provided with working files, i.e.: KML/KMZ/Shapefiles and if a buffer is recommended, please ensure relevant table of coordinates are provided.

#### 4.2 Quotation Details

Please provide a written quote for all Phases, including a break-down of costs and indicate your availability to commence the study.

### 5. EXPECTED DELIVERABLES

An initial draft report covering the above requirements must be submitted to SES **four weeks** after the notice to proceed with above scope of work. The report must be prepared in a suitable font (such as Arial 12) and the format and content must comply with Appendix 6 of the amended EIA Regulations, 2017, as well as the Promulgated Protocols relating to Animal Biodiversity (dated Oct 2020). The final report (which shall include any reasonable amendments in response to the EAP's comments on the initial draft, if necessary) shall be

delivered **two weeks** after the draft report, assuming the EAP shall have provided comments within a week after receiving the initial draft report.



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## TERMS OF REFERENCE FOR TERRESTRIAL BIODIVERSITY SPECIALIST ASSESSMENT

### PROPOSED UPGRADING OF THE HEROLD'S BAY PUMP STATION AND PIPELINES

#### 1. INTRODUCTION

Sharples Environmental Services cc (SES) has been appointed as the independent Environmental Assessment Practitioner (EAP) to conduct the environmental impact assessment for the proposed upgrade and development of the Herold's Bay pump station and pipelines, George Municipality, Western Cape.

The properties involved are: Remainder of Farm 236 and Portion 10 of Farm 236 Brakfontein as well as Erven RE/95 and 116.

#### 1.1 Location of the proposal



**Figure 1: Locality Map**

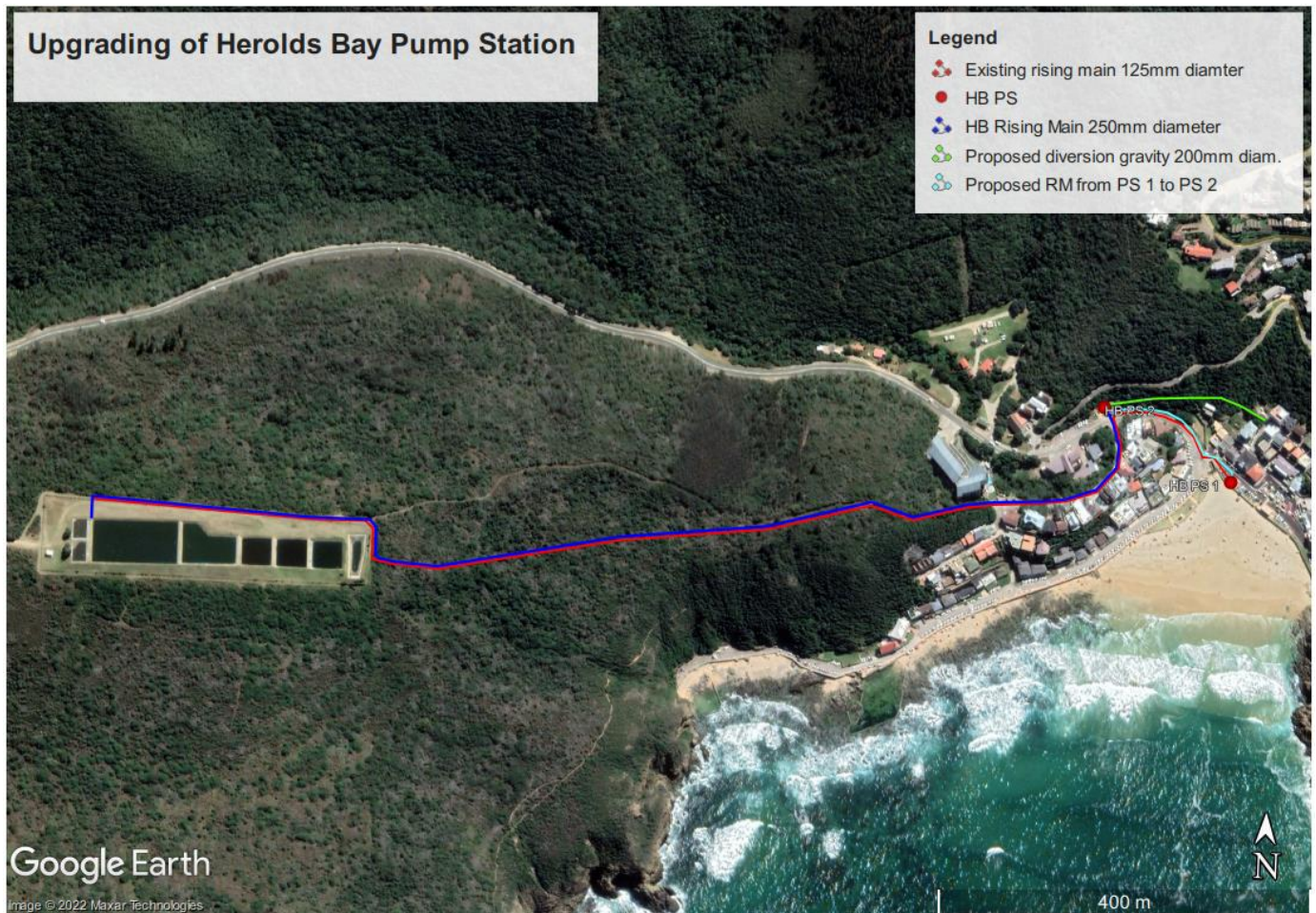


## 2. PROJECT DESCRIPTION

SMEC South Africa (Pty) Ltd has been appointed by the George Local Municipality for the Upgrading of Herold's Bay Sewer Pump Station and associated rising main.

The study area includes the following:

- The upgrading of the existing Pump Station No. 1 (PS 1)
- Construction of a new screening and de-gritting pump station (PS 2)
- Construction of a new 250mm diameter rising main parallel to the existing rising main from the New Screening and De-gritting Pump Station (PS2) to the Herold's Bay WWTW's
- Construction of a new rising main from the Herold's Bay Pump Station (PS 1) to the new screening and de-gritting pump station



**Figure 2: The proposed scope of work.**

## 3. SCREENING TOOL REPORT

A screening report was completed on 30 November 2022 (Appendix B) and a **“Very High”** environmental sensitivity rating was indicated for the Terrestrial Biodiversity theme. As per the procedures for the assessment and minimum criteria for reporting on identified environmental themes (Terrestrial Biodiversity) in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation (March 2020), *“An applicant intending to undertake an activity identified in the scope of this protocol, on a site identified on the screening tool as being of “very high sensitivity” for terrestrial biodiversity, must submit a Terrestrial Biodiversity Specialist Assessment”*. However, where the information gathered from the site sensitivity verification differs from the designation of “very high” terrestrial biodiversity sensitivity on the screening tool and it is found to be of a “low” sensitivity, then a Terrestrial Biodiversity Compliance Statement must be submitted. Therefore, specialist input is required in this regard.



Sensitivity	Feature(s)
Very High	Critical biodiversity area 1
Very High	Critical biodiversity area 2
Very High	Ecological support area 2
Very High	National Forestry Inventory
Very High	Strategic Water Source Areas
Very High	Critically endangered ecosystem
Very High	Vulnerable ecosystem

#### 4. SPECIALIST INVOLVEMENT

The purpose of this Assessment is to determine the proposed development impact on the Terrestrial Biodiversity.

The specialist conducting this study must:

- Be independent and have expertise in conducting similar assessments;
- Have a suitable academic qualification in the relative field;
- Be registered with the South African Council for Natural Scientific Professionals (SACNASP) and having expertise in the field of Terrestrial Biodiversity;
- Be familiar with the assessment criteria commonly used in the EIA Process to assess and evaluate impacts, as well as the newly promulgated Protocols related to the Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes (March 2020 & October 2020);
- Have good knowledge relating to assessment techniques and to relevant legislation, policies and guidelines.
- Perform the work in an objective manner, even if this results in views and findings that are not favourable to the applicant.

##### 4.1 Terms of Reference

The assessment of the proposal will necessitate specialist input which will need to be undertaken with the Terms of Reference listed below and relevant specialist guidelines. In addition to meeting the requirements of the relevant legislation, the Terrestrial Biodiversity Specialist Assessment should also meet those of the Guideline for Involving Terrestrial Biodiversity specialists in EIA Processes and the relevant Gazetted Protocols: [https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted Terrestrial Biodiversity Assessment Protocols.pdf](https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf).

The specialist must have no financial or other vested interest in the proposed development and must be professionally registered with the SACNASP.

##### Terrestrial Biodiversity Assessment scope.

###### Phase 1

The assessment must provide a baseline description of the site which includes, as a minimum, the following aspects:

- ✓ A description of the ecological drivers or processes of the system and how the proposed development will impact these;
- ✓ A description of the ecological infrastructure, functioning, processes and services (e.g., fire, migration, pollination, etc.) that operate within the preferred site;
- ✓ A description of the ecological corridors that the proposed development would impede including migration and movement of flora and fauna;
- ✓ Indicate whether or not the proposed development will have any impact on biodiversity features;
- ✓ An indication and description of any significant terrestrial landscape features, including rare or important flora-faunal associations, presence of strategic water source areas (SWSAs) or freshwater ecosystem priority area (FEPA) sub catchments;
- ✓ A description of terrestrial biodiversity and ecosystems on the preferred site, including:

- main vegetation types;
- threatened ecosystems, including listed ecosystems as well as locally important habitat types identified;
- ecological connectivity, habitat fragmentation, ecological processes and fine - scale habitats; and
- species, distribution, important habitats (e.g. feeding grounds, nesting sites, etc.) and movement patterns identified;
- Species of Conservation Concern
- ✓ Make reference to the allocated sensitivity as per the screening tool, state whether or not this sensitivity is accurate and recommend appropriate reclassification if it is not.
- ✓ The assessment must identify any alternative development footprints within the preferred site which would be of a "low" sensitivity as identified by the screening tool and verified through the site sensitivity verification.

## Phase 2

Based on the results of a site visit, the following aspects are to be identified, discussed and applied to form the base for assessment:

- ✓ Terrestrial Critical Biodiversity Areas (CBAs), including:
  - the reasons why an area has been identified as a CBA;
  - an indication of whether or not the proposed development is consistent with maintaining the CBA in a natural or near natural state or in achieving the goal of rehabilitation;
  - percentage of site (erven/farm portions) covered by CBA
  - percentage of CBA (specify degraded/transformed and pristine) lost to proposed development layout alternatives (if layout is available).
  - the impact on species composition and structure of vegetation with an indication of the extent of clearing activities in proportion to the remaining extent of the ecosystem type(s);
  - the impact on ecosystem threat status;
  - the impact on explicit subtypes in the vegetation;
  - the impact on overall species and ecosystem diversity of the site; and
  - the impact on any changes to threat status of populations of species of conservation concern in the CBA;
  - Inclusion of any necessary buffer areas, including the identification of zones of sensitivity within the CBA that are priority to maintain ecological integrity.
- ✓ Terrestrial Ecological Support Areas (ESAs), including:
  - Percentage/quantity of site (erven/farm portions) covered by ESA
  - percentage of ESA lost to development (if layout is available)
  - the impact on the ecological processes that operate within or across the site;
  - the extent the proposed development will impact on the functionality of the ESA; and
  - loss of ecological connectivity (on site, and in relation to the broader landscape) due to the degradation and severing of ecological corridors or introducing barriers that impede migration and movement of flora and fauna;
  - Inclusion of any necessary buffer areas, including the identification of zones of sensitivity within the ESA that are priority to maintain ecological integrity.
- ✓ Protected areas as defined by the National Environmental Management: Protected Areas Act, 2004 including-
  - an opinion on whether the proposed development aligns with the objectives or purpose of the protected area and the zoning as per the protected area management plan;
- ✓ Priority areas for protected area expansion, including-
  - the way in which in which the proposed development will compromise or contribute to the expansion of the protected area network;
- ✓ SWSAs including:
  - the impact(s) on the terrestrial habitat of a SWSA; and
  - the impacts of the proposed development on the SWSA water quality and quantity (e.g. describing potential increased runoff)

- ✓ FEPA sub catchments, including-
  - the impacts of the proposed development on habitat condition and species in the FEPA sub catchment;
- ✓ Indigenous forests, including:
  - impact on the ecological integrity of the forest; and
  - percentage of natural or near natural indigenous forest area lost and a statement on the implications in relation to the remaining areas.
- ✓ Vegetation present onsite, including:
  - percentage of vegetation cover on the proposed site (erven/farm portions)
    - percentage of indigenous vegetation cover
    - percentage of alien invasive vegetation cover
  - percentage of vegetation cover to be lost due to development (provision of layouts depending)
    - percentage indigenous vegetation lost
    - percentage of alien invasive vegetation to be cleared
  - visualisation (map/illustration) of alien and indigenous vegetation loci.
- ✓ Identification of core ecosystem areas within the proposed site, as well as a description of the Ecosystem services and process provided.
- ✓ An indication and description of any Species of Conservation Concern
  - If search and rescue is recommended please provide a description of appropriate removal, maintenance and reinstatement methodology.
- ✓ Specify location of the areas not suitable for development, which are to be avoided during construction and operation (where relevant)
- ✓ Determine the need for a Compliance Statement or a Terrestrial Biodiversity Assessment Report, as per point 1: General Information of the Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Biodiversity, it is stated:
  - 1.3. However, where the information gathered from the site sensitivity verification differs from the designation of “very high” terrestrial biodiversity sensitivity on the screening tool and it is found to be of a “low” sensitivity, then a Terrestrial Biodiversity Compliance Statement must be submitted.
  - 1.5. If any part of the proposed development footprint falls within an area of “very high” sensitivity, the assessment and reporting requirements prescribed for the “very high” sensitivity apply to the entire footprint, excluding linear activities for which impacts on terrestrial biodiversity are temporary and the land in the opinion of the terrestrial biodiversity specialist, based on the mitigation and remedial measures, can be returned to the current state within two years of the completion of the construction phase, in which case a compliance statement applies. Development footprint in the context of this protocol means the area on which the proposed development will take place and includes any area that will be disturbed.

### **Phase 3 – If a Compliance Statement is Required**

- ✓ The compliance statement must be prepared by a specialist registered with the SACNASP and having expertise in the field of ecological sciences.
- ✓ The compliance statement must:
  - be applicable to the preferred site and proposed development footprint;
  - confirm that the site is of “low” sensitivity for terrestrial biodiversity; and
  - indicate whether or not the proposed development will have any impact on the biodiversity feature.
- ✓ The compliance statement must contain, as a minimum, the following information:
  - the contact details of the specialist, their SACNASP registration number, their field of expertise and a curriculum vitae;
  - a signed statement of independence by the specialist;
  - a statement on the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;
  - a baseline profile description of biodiversity and ecosystems of the site;

- the methodology used to verify the sensitivities of the terrestrial biodiversity features on the site, including equipment and modelling used, where relevant;
  - in the case of a linear activity, confirmation from the terrestrial biodiversity specialist that, in their opinion, based on the mitigation and remedial measures proposed, the land can be returned to the current state within two years of completion of the construction phase;
  - where required, proposed impact management outcomes or any monitoring requirements for inclusion in the EMPr;
  - a description of the assumptions made and any uncertainties or gaps in knowledge or data; and
  - any conditions to which this statement is subjected.
- ✓ A signed copy of the compliance statement must be appended to the Basic Assessment Report or Environmental Impact Assessment Report.

### **Phase 3 – If a Terrestrial Biodiversity Assessment Report is required**

The Terrestrial Biodiversity Specialist Assessment Report must discuss the following aspects:

- ✓ A description of the areas not suitable for development, which are to be avoided during construction and operation (where relevant);
- ✓ additional environmental impacts expected from the proposed development;
- ✓ any direct, indirect and cumulative impacts of the proposed development;
- ✓ the degree to which impacts and risks can be mitigated;
- ✓ the degree to which the impacts and risks can be reversed;
- ✓ the degree to which the impacts and risks can cause loss of irreplaceable resources;
- ✓ proposed impact management actions and impact management outcomes proposed by the specialist for inclusion in the Environmental Management Programme (EMPr);
- ✓ how the mitigation hierarchy was applied when determining mitigation measures and recommendations.
- ✓ a motivation must be provided if there were development footprints identified as the site verification visit, that were identified as having a "low" terrestrial biodiversity sensitivity and that were not considered appropriate;
- ✓ a substantiated statement, based on the findings of the specialist assessment, regarding the acceptability, or not, of the proposed development, if it should receive approval or not; and
- ✓ any conditions to which this statement is subjected.
- ✓ Identification of any buffer areas.

### **General**

- ✓ Reference all sources of information and/or data used.
- ✓ Include contact details, relevant experience, CV and SACNASP registration number.
- ✓ A signed statement of independence by the specialist;
- ✓ A statement on the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;
- ✓ A description of the methodology used to undertake the site survey, prepare the assessment, verify the sensitivities of the terrestrial biodiversity features on the site, including equipment and modelling used, where relevant.
- ✓ The assessment must be undertaken on the preferred site and within the proposed development footprint.
- ✓ Where required, proposed impact management actions and outcomes or any monitoring requirements for inclusion in the EMPr;
- ✓ A description of the limitations, assumptions made and any uncertainties or gaps in knowledge or data as well as a statement of the timing and intensity of site inspection observations;
- ✓ Any conditions to which the assessment is subjected.
- ✓ The specialist and the assessment must comply with the following guidelines and legislation:
  - Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of Sections 24(5)(A) and (H) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation
- ✓ The assessment should be prepared in a suitable font and submitted to SES in draft form.



- ✓ Ensure it is clear that the mitigation hierarchy has been applied, in order, when recommendations and mitigation is applied.
- ✓ Ensure that there are no conflicting recommendations or conclusions.
- ✓ Ensure the EAP is provided with working files, i.e.: KML/KMZ/Shapefiles and if a buffer is recommended, please ensure relevant table of coordinates are provided.

#### **4.2 Quotation Details**

Please provide a written quote for all Phases, including a break-down of costs and indicate your availability to commence the study.

### **5. EXPECTED DELIVERABLES**

An initial draft assessment covering the above requirements must be submitted to SES four weeks after the notice to proceed with above scope of work. The assessment must be prepared in a suitable font (such as Arial 12) and the format and content must comply with Appendix 6 of the amended EIA Regulations, 2017, as well as the Promulgated Protocols relating to Terrestrial Biodiversity (dated March 2020). The final assessment (which shall include any reasonable amendments in response to the EAP's comments on the initial draft, if necessary) shall be delivered **two weeks** after the draft assessment, assuming the EAP shall have provided comments within a week after receiving the initial draft assessment.



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## TERMS OF REFERENCE FOR AQUATIC BIODIVERSITY IMPACT ASSESSMENT / COMPLIANCE STATEMENT

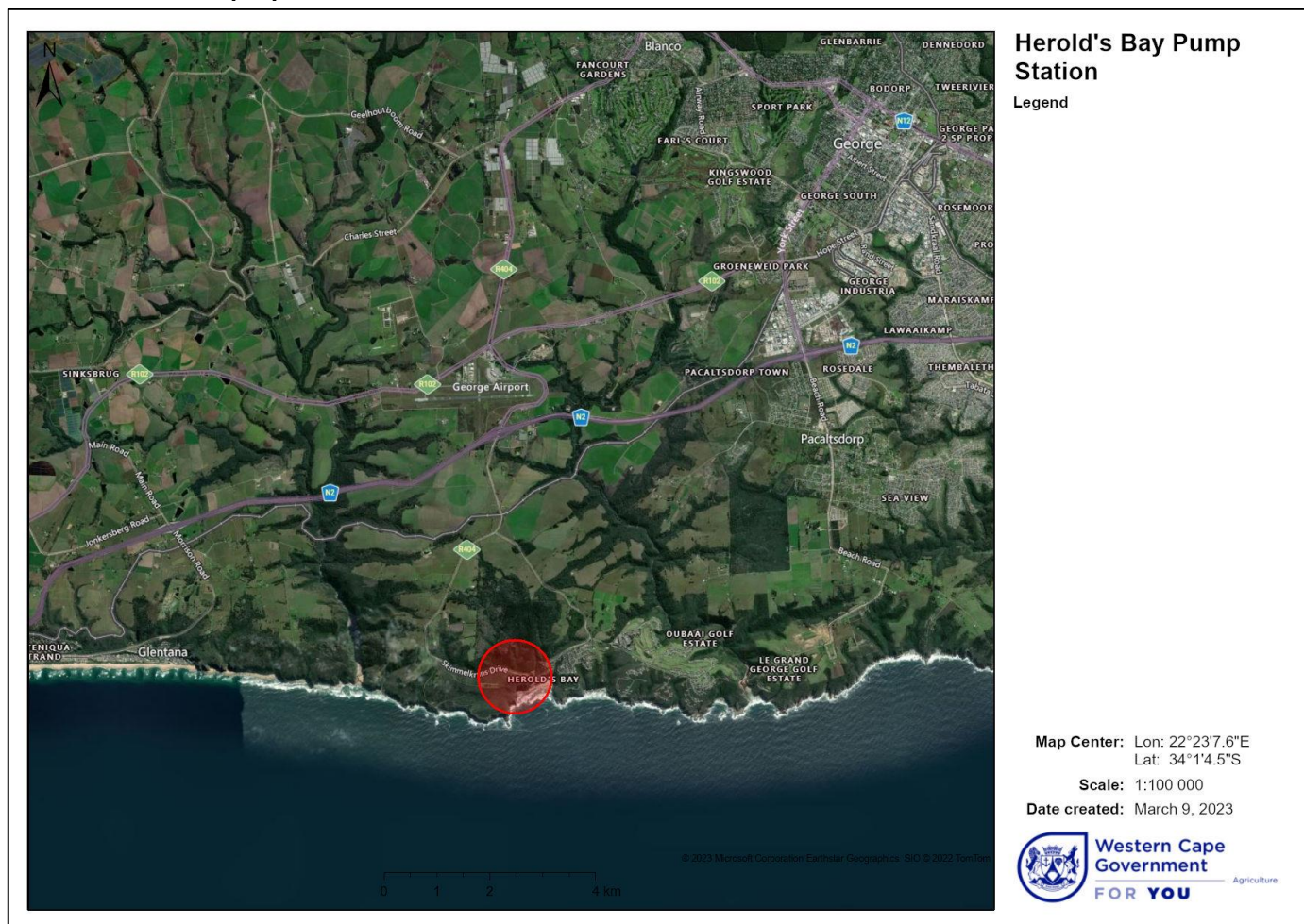
### PROPOSED UPGRADING OF THE HEROLD'S BAY PUMP STATION AND PIPELINES

#### 1. INTRODUCTION

Sharples Environmental Services cc (SES) has been appointed as the independent Environmental Assessment Practitioner (EAP) to conduct the environmental impact assessment for the proposed upgrade and development of the Herold's Bay pump station and pipelines, George Municipality, Western Cape.

The properties involved are Remainder of Farm 236 and Portion 10 of Farm 236 Brakfontein as well as Erven RE/95 and 116.

#### 1.1 Location of the proposal



**Figure 1: Locality Map**

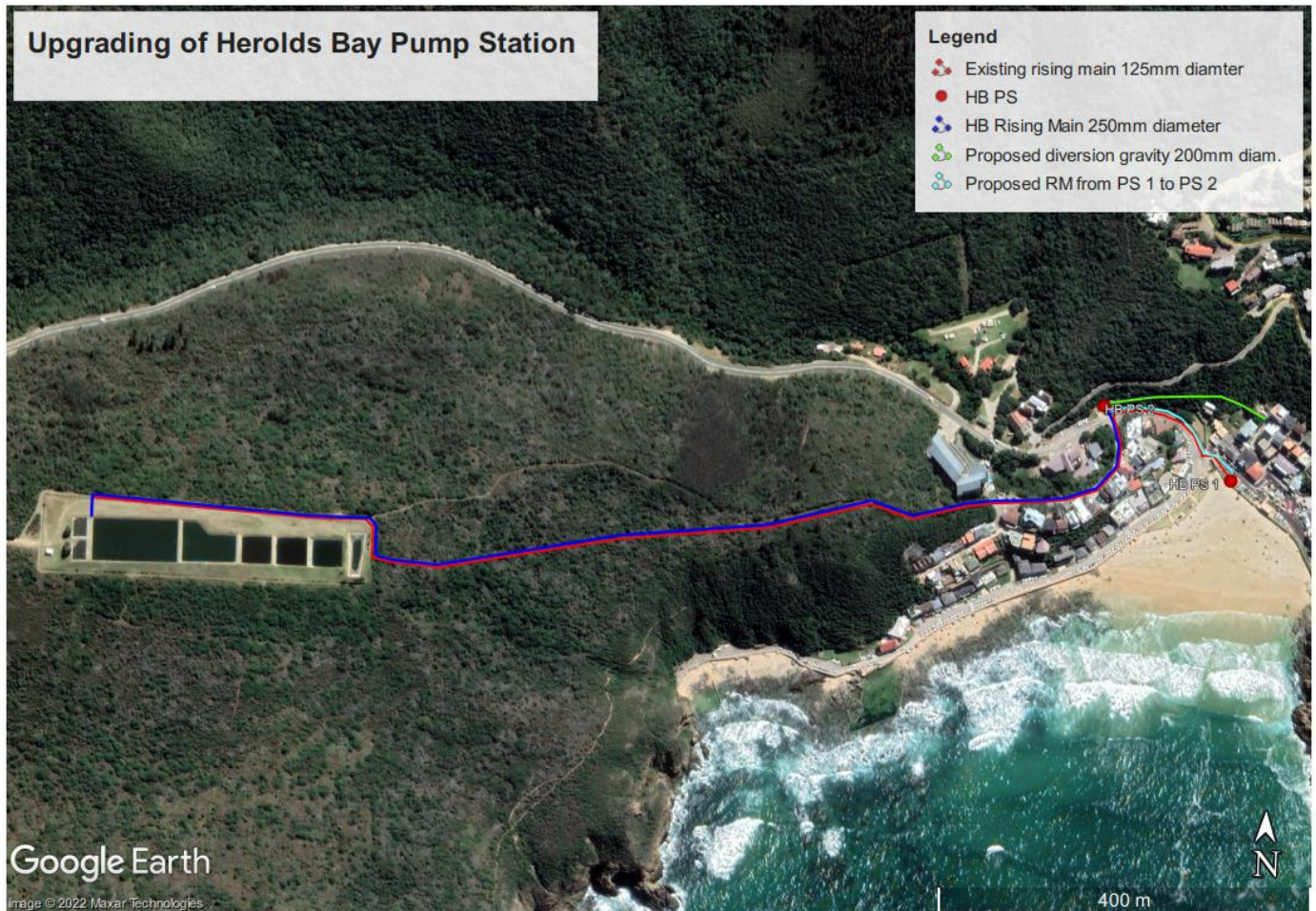


## 2. PROJECT DESCRIPTION

SMEC South Africa (Pty) Ltd has been appointed by the George Local Municipality for the Upgrading of Herold's Bay Sewer Pump Station and associated rising main.

The study area includes the following:

- The upgrading of the existing Pump Station No. 1 (PS 1)
- Construction of a new screening and de-gritting pump station (PS 2)
- Construction of a new 250mm diameter rising main parallel to the existing rising main from the New Screening and De-gritting Pump Station (PS2) to the Herold's Bay WWTW's
- Construction of a new rising main from the Herold's Bay Pump Station (PS 1) to the new screening and de-gritting pump station



[Figure 2: The proposed scope of work.](#)

## 3. SCREENING TOOL REPORT

A screening report was completed on 30 November 2022 and A **“Very High”** environmental sensitivity rating was indicated for the Aquatic Biodiversity theme since the area falls within a Strategic Water Source Area. As per the procedures for the assessment and minimum criteria for reporting on identified environmental themes (Aquatic Biodiversity) in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation (March 2020), “1.1. An applicant intending to undertake an activity identified in the scope of this protocol on a site identified on the screening tool as being of “Very High sensitivity” for aquatic biodiversity, must submit an Aquatic Biodiversity Specialist Assessment; 1.2. Where the information gathered from the site sensitivity verification differs from the screening tool designation of “very high” aquatic biodiversity sensitivity, and it is found to be of a “low” sensitivity, an Aquatic Biodiversity Compliance Statement must be submitted”.

## 4. SPECIALIST INVOLVEMENT

The purpose of this study is to conduct Aquatic Biodiversity Impact Assessment of the site to ascertain the status of the aquatic features and assess the potential impact of the proposed changes in the development

layout on the aquatic environment. The report should not be limited to this brief. Where the specialist sees the necessity for providing other vital information or investigations, this should be included.

The specialist conducting this study must:

- Be independent and have expertise in conducting similar assessments;
- Have a suitable academic qualification in the aquatic field;
- Be registered with the South African Council for Natural Scientific Professionals (SACNASP);
- Be familiar with the assessment criteria commonly used in the EIA Process to assess and evaluate impacts, as well as the newly promulgated Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes (March 2020);
- Have good knowledge relating to assessment techniques and to relevant legislation, policies and guidelines.
- Perform the work in an objective manner, even if this results in views and findings that are not favourable to the applicant.
- Consider the DEA&DP's Guideline on Involving biodiversity specialists in the EIA process.

#### **4.1 Terms of Reference**

The assessment of the proposal will necessitate specialist input which will need to be undertaken with the Terms of Reference listed below and relevant specialist guidelines. In addition to meeting the requirements of the relevant legislation, Aquatic Biodiversity Impact Assessment reports should also meet those of the Guideline for Involving Aquatic Specialists in EIA Processes and the relevant Gazetted Protocols. The aquatic specialist must have no financial or other vested interest in the proposed development and must be professionally registered with the South African Council for Natural Scientific Professionals (SACNASP).

#### **Phase 1 (Contextualisation of study area)**

- ✓ Contextualization of the study area in terms of important biophysical characteristics and the latest available aquatic conservation planning information (including but not limited to vegetation, CBAs, Threatened ecosystems, any Red data book information, NFEPA data, broader catchment drainage and protected areas).
- ✓ Desktop delineation and illustration of all watercourses within and surrounding the study area utilising available site-specific data such as aerial photography, contour data and water resource data.
- ✓ A risk/screening assessment of the identified aquatic ecosystems to determine which ones will be impacted upon by the proposed development and therefore require groundtruthing and detailed assessment.

It should be noted that following the site verification visit, as per point 1: General Matters of the Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Aquatic Biodiversity,

" 1.2. Where the information gathered from the site sensitivity verification differs from the screening tool designation of "very high" aquatic biodiversity sensitivity, and it is found to be of a "low" sensitivity, an Aquatic Biodiversity Compliance Statement must be submitted."

And,

"1.4. If any part of the proposed development footprint falls within an area of "very high" sensitivity, the assessment and reporting requirements prescribed for the "very high" sensitivity apply to the entire footprint, excluding a linear activity for which impacts on aquatic biodiversity are temporary and the land in the opinion of the aquatic biodiversity specialist, based on the mitigation and remedial measures, can be returned to the current state within two years of the completion of the construction phase, in which case a compliance statement applies. In the context of this protocol, development footprint means the area on which the proposed development will take place and includes any area that will be disturbed."

#### **Phase 2 (Delineation and classification)**

- ✓ Ground truthing, infield identification, delineation and mapping of any potentially affected aquatic ecosystems in terms of the Department of Water and Sanitation (DWAF 2008) Updated Manual for the Identification and Delineation of Wetlands and Riparian Areas.



- ✓ Field delineation must follow the accepted national protocol and should result in a map that includes the identified boundary and the field data collection points (which should include at least one point outside the wetland or riparian area), and a report that explains how and when the boundary was determined.
- ✓ Classification of the identified aquatic ecosystems in accordance with the 'National Wetland Classification System for Wetlands and other Aquatic Ecosystems in South Africa' (Ollis et al. 2013) and WET-Ecoservices (Kotze et al. 2009).
- ✓ Description of the identified watercourses with photographic evidence.

**A baseline description of the site is to be compiled and is to reflect the following aspects**

- ✓ The aquatic ecosystem types, the presence of aquatic species, and composition of aquatic species communities, their habitat, distribution and movement patterns.
- ✓ The threat status of the ecosystem and species as identified by the screening tool.
- ✓ An indication of the national and provincial priority status of the aquatic ecosystem, including a description of the criteria for the given status (i.e., if the site includes a wetland or a river freshwater ecosystem priority area or sub catchment, a strategic water source area, a priority estuary, whether or not they are free-flowing rivers, wetland clusters, a critical biodiversity or ecologically sensitivity area).
- ✓ A description of the ecological importance and sensitivity of the aquatic ecosystem including:
  - the description (spatially, if possible) of the ecosystem processes that operate in relation to the aquatic ecosystems on and immediately adjacent to the site (e.g. movement of surface and subsurface water, recharge, discharge, sediment transport, etc.); and (b) the historic ecological condition (reference) as well as present ecological state of rivers (in- stream, riparian and floodplain habitat), wetlands and/or estuaries in terms of possible changes to the channel and flow regime (surface and groundwater).
  - Ecological infrastructure, processes and services within the site and immediate surroundings.
- ✓ Identify alternative development footprints within the preferred site which would be of a "low" sensitivity as identified by the screening tool and verified through the site sensitivity verification and which were not considered appropriate.

In the case of the specialist identifying that the sensitivity is low and as per 1.4 above, a Compliance Statement should be undertaken, as follows: **Phase 3: Compliance Statement**

- ✓ The compliance statement must be prepared by a suitably qualified specialist registered with the SACNASP, with expertise in the field of aquatic sciences.
- ✓ The compliance statement must:
  - be applicable to the preferred site and the proposed development footprint;
  - confirm that the site is of "low" sensitivity for aquatic biodiversity; and
  - indicate whether or not the proposed development will have an impact on the aquatic features.
- ✓ The compliance statement must contain, as a minimum, the following information:
  - contact details of the specialist, their SACNASP registration number, their field of expertise and a curriculum vitae;
  - a signed statement of independence by the specialist;
  - a statement on the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;
  - a baseline profile description of biodiversity and ecosystems of the site;
  - the methodology used to verify the sensitivities of the aquatic biodiversity features on the site including the equipment and modelling used where relevant;
  - in the case of a linear activity, confirmation from the aquatic biodiversity specialist that, in their opinion, based on the mitigation and remedial measures proposed, the land can be returned to the current state within two years of completion of the construction phase;
  - where required, proposed impact management outcomes or any monitoring requirements for inclusion in the EMP;
  - a description of the assumptions made as well as any uncertainties or gaps in knowledge or data; and
  - any conditions to which this statement is subjected.

- ✓ A signed copy of the compliance statement must be appended to the Basic Assessment Report or Environmental Impact Assessment Report.

### **Phase 3 (If an Aquatic Assessment is required)**

- ✓ Conduct a Present Ecological State (PES), functional importance assessment and Ecological Importance and Sensitivity (EIS) assessment of the delineated wetland habitats, utilising the latest tools, such as:
  - Level 2 WET-Health tool (Macfarlane et al., 2009/2018) – PES
  - WET-Ecoservices (Kotze et al., 2009/2018) and/or the Wetland EIS assessment tool of Roundtree and Kotze (2013). - Functional assessment
- ✓ Conduct a Present Ecological State (PES) and Present Ecological Importance and Sensitivity (EIS) assessment of the delineated river/riparian habitats, utilising:
  - Qualitative Index of Habitat Integrity (IHI) tool adapted from (Kleynhans, 1996) – PES
  - DWAF (DWS) River EIS tool (Kleynhans, 1999) – EIS
- ✓ Indicate the Recommended Ecological Category (REC) of the potentially impacted aquatic ecosystems.

### **Phase 4 (Impact Assessment)**

- ✓ Identification, prediction and description of potential impacts on aquatic habitat during the construction and operational phases of the project. Impacts are described in terms of their extent, intensity, and duration. The other aspects that must be included in the evaluation are probability, reversibility, irreplaceability, mitigation potential, and confidence in the evaluation.
- ✓ All direct, indirect, and cumulative impacts for each alternative must be rated with and without mitigation to determine the significance of the impacts.

#### **Confirm:**

- ✓ Is the proposed development consistent with maintaining the priority aquatic ecosystem in its current state and according to the stated goal.
- ✓ Is the proposed development consistent with maintaining the resource quality objectives for the aquatic ecosystems present.
- ✓ How will the proposed development impact on fixed and dynamic ecological processes that operate within or across the site? This must include:
  - impacts on hydrological functioning at a landscape level and across the site which can arise from changes to flood regimes (e.g. suppression of floods, loss of flood attenuation capacity, unseasonal flooding or destruction of floodplain processes);
  - will the proposed development change the sediment regime of the aquatic ecosystem and its sub-catchment (e.g. sand movement, meandering river mouth or estuary, flooding or sedimentation patterns);
  - what will the extent of the modification in relation to the overall aquatic ecosystem be (e.g. at the source, upstream or downstream portion, in the temporary / seasonal / permanent zone of a wetland, in the riparian zone or within the channel of a watercourse, etc.); and
  - to what extent will the risks associated with water uses and related activities change;
- ✓ How will the proposed development impact on the functioning of the aquatic feature? This must include:
  - base flows (e.g., too little or too much water in terms of characteristics and requirements of the system);
  - quantity of water including change in the hydrological regime or hydroperiod of the aquatic ecosystem (e.g., seasonal to temporary or permanent; impact of over-abstraction or instream or off-stream impoundment of a wetland or river);
  - change in the hydrogeomorphic typing of the aquatic ecosystem (e.g., change from an unchannelled valley-bottom wetland to a channelled valley-bottom wetland);
  - quality of water (e.g., due to increased sediment load, contamination by chemical and/or organic effluent, and/or eutrophication);
  - fragmentation (e.g., road or pipeline crossing a wetland) and loss of ecological connectivity (lateral and longitudinal); and
  - the loss or degradation of all or part of any unique or important features associated with or within the aquatic ecosystem (e.g., waterfalls, springs, oxbow lakes, meandering or braided channels, peat soils, etc.);

- ✓ how will the proposed development impact on key ecosystems regulating and supporting services especially: (a) flood attenuation; (b) streamflow regulation; (c) sediment trapping; (d) phosphate assimilation; (e) nitrate assimilation; (f) toxicant assimilation; (g) erosion control; and (h) carbon storage
- ✓ how will the proposed development impact community composition (numbers and density of species) and integrity (condition, viability, predator-prey ratios, dispersal rates, etc.) of the faunal and vegetation communities inhabiting the site?

### **Phase 5 (Mitigation and monitoring)**

- ✓ Recommend actions that should be taken to avoid impacts on aquatic habitat, in alignment with the mitigation hierarchy, and any measures necessary to restore disturbed areas or ecological processes.
- ✓ Determination and mapping of any necessary buffer zones with consideration to the Buffer zone guidelines for rivers, wetlands and estuaries (Macfarlane & Bredin, 2016).
- ✓ Rehabilitation guidelines for disturbed areas associated with the proposed project and monitoring.

### **General**

- ✓ Reference all sources of information and/or data used.
- ✓ Indicate limitations and assumptions, particularly in relation to seasonality.
- ✓ Description of the methodology adopted in preparing the report
- ✓ Provide a reasoned opinion as to whether the proposed activity should be authorised
- ✓ The specialist and the report must comply with the following guidelines and legislation:
  - Appendix 6 of the Amended EIA Regulations, GN No. R. 326 (April 2017).
  - Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes (March 2020 & October 2020)
- ✓ The report should be prepared in a suitable font and submitted to SES in draft form.
- ✓ The report must contain as a bare minimum:
  - contact details of the specialist, their SACNASP registration number, their field of expertise and a curriculum vitae;
  - a signed statement of independence by the specialist;
  - a statement on the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;
  - the methodology used to undertake the site inspection and the specialist assessment, including equipment and modelling used, where relevant;
  - a description of the assumptions made, any uncertainties or gaps in knowledge or data;
  - the location of areas not suitable for development, which are to be avoided during construction and operation, where relevant;
  - additional environmental impacts expected from the proposed development;
  - any direct, indirect and cumulative impacts of the proposed development on site; 2.7.9. the degree to which impacts and risks can be mitigated;
  - the degree to which the impacts and risks can be reversed;
  - the degree to which the impacts and risks can cause loss of irreplaceable resources;
  - a suitable construction and operational buffer for the aquatic ecosystem, using the accepted methodologies;
  - proposed impact management actions and impact management outcomes for inclusion in the Environmental Management Programme (EMPr);
  - a motivation must be provided if there were development footprints identified as per the site verification visit that were identified as having a "low" aquatic biodiversity sensitivity and that were not considered appropriate;
  - a substantiated statement, based on the findings of the specialist assessment, regarding the acceptability or not of the proposed development and if the proposed development should receive approval or not; and
  - any conditions to which this statement is subjected.
- ✓ Ensure it is clear that the mitigation hierarchy has been applied, in order, when recommendations and mitigation is applied.
- ✓ Ensure that there are no conflicting recommendations or conclusions.

- ✓ Ensure the EAP is provided with working files, ie: KML/KMZ/Shapefiles and if a buffer is recommended, please ensure relevant table of coordinates are provided.

#### **4.2 Quotation Details**

Please provide a written quote for all Phases, including a break-down of costs and indicate your availability to commence the study.

### **5. EXPECTED DELIVERABLES**

An initial draft report covering the above requirements must be submitted to SES **four weeks** after the notice to proceed with above scope of work. The report must be prepared in a suitable font (such as Arial 12) and the format and content must comply with Appendix 6 of the amended EIA Regulations, 2017, as well as the Promulgated Protocols relating to Aquatic Biodiversity (dated March 2020). The final report (which shall include any reasonable amendments in response to the EAP's comments on the initial draft, if necessary) shall be delivered **two weeks** after the draft report, assuming the EAP shall have provided comments within a week after receiving the initial draft report.



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# TERMS OF REFERENCE FOR HYDROLOGICAL IMPACT ASSESSMENT

## PROPOSED UPGRADING OF THE HEROLD'S BAY PUMP STATION AND PIPELINES

### 1. INTRODUCTION

Sharples Environmental Services cc (SES) has been appointed as the independent Environmental Assessment Practitioner (EAP) to conduct the environmental impact assessment for the proposed upgrade and development of the Herold's Bay pump station and pipelines, George Municipality, Western Cape.

The properties involved are Remainder of Farm 236 and Portion 10 of Farm 236 Brakfontein as well as Erven RE/95 and 116.

#### 1.1 Location of the proposal

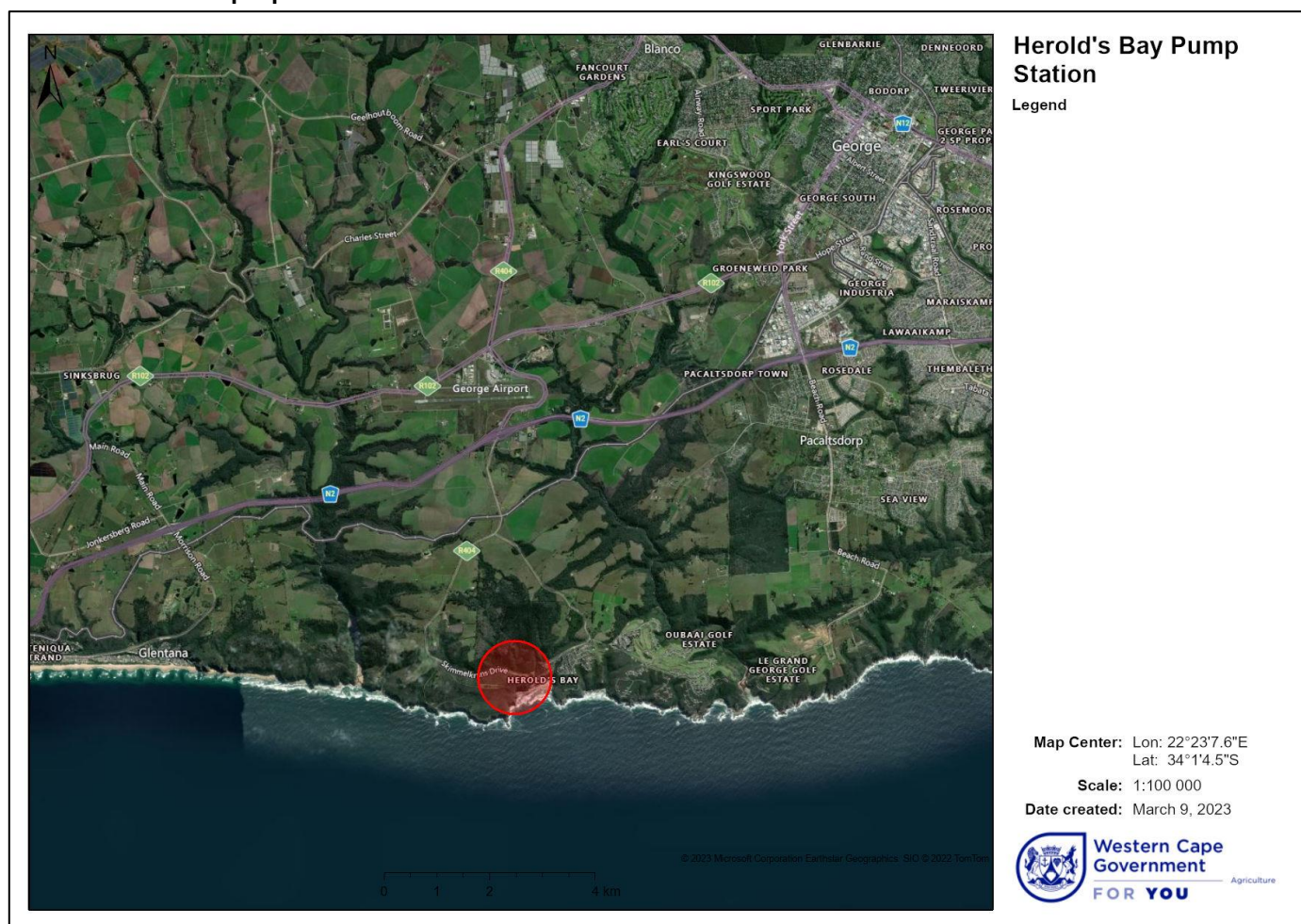


Figure 1: Locality Map.



## 2. PROJECT DESCRIPTION

SMEC South Africa (Pty) Ltd has been appointed by the George Local Municipality for the Upgrading of Herold's Bay Sewer Pump Station and associated rising main.

The study area includes the following:

- The upgrading of the existing Pump Station No. 1 (PS 1)
- Construction of a new screening and de-gritting pump station (PS 2)
- Construction of a new 250mm diameter rising main parallel to the existing rising main from the New Screening and De-gritting Pump Station (PS2) to the Herold's Bay WWTW's
- Construction of a new rising main from the Herold's Bay Pump Station (PS 1) to the new screening and de-gritting pump station (PS 2)



**Figure 2: The proposed scope of work.**

The initial proposal included a diesel fuel storage tank in a bunded area aboveground, the proposal has since changed to include a below ground diesel fuel tank at PS 2 on erf 116 and as such we require a hydrological assessment for the proposal.

The engineers are still busy finalising the specifications and their report.



**Figure 2:**

## 2. DFFE SCREENING TOOL REPORT

A screening report was completed on 30 November 2022 and although no hydrological sensitivity was highlighted, point 6 of the table located on page 7 indicates that a hydrological assessment should be undertaken.

## 3. SPECIALIST INVOLVEMENT

The purpose of this study is to conduct Hydrological Impact Assessment of the site to assess the potential impact of the proposed development and its proposed underground diesel fuel storage tank on the ground water. The report should not be limited to this brief. Where the specialist sees the necessity for providing other vital information or investigations, this should be included.

The report must include water quality results of the outflows, groundwater monitoring recommendations/ water quality management, and details such as for monitoring boreholes, etc.

The specialist conducting this study must:

- Be independent and have expertise in conducting similar assessments;
- Have a suitable academic qualification in the geohydrological field;
- Be registered with the South African Council for Natural Scientific Professionals (SACNASP);
- Be familiar with the assessment criteria commonly used in the EIA Process to assess and evaluate impacts, as well as the newly promulgated Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes (March 2020);
- Have good knowledge relating to assessment techniques and to relevant legislation, policies and guidelines.
- Perform the work in an objective manner, even if this results in views and findings that are not favourable to the applicant.
- Consider the DEA&DP's Guideline on Involving biodiversity specialists in the EIA process.

### 3.1 Terms of Reference

The assessment of the proposal will necessitate specialist input which will need to be undertaken with the Terms of Reference listed below and relevant specialist guidelines. In addition to meeting the requirements of the relevant legislation, the specialist must have no financial or other vested interest in the proposed development and must be professionally registered with the South African Council for Natural Scientific Professionals (SACNASP).

#### General

- ✓ Reference all sources of information and/or data used.
- ✓ Indicate limitations and assumptions, particularly in relation to seasonality.
- ✓ Description of the methodology adopted in preparing the report
- ✓ Provide a reasoned opinion as to whether the proposed activity should be authorised
- ✓ The specialist and the report must comply with the following guidelines and legislation:
  - Appendix 6 of the Amended EIA Regulations, GN No. R. 326 (April 2017).
  - Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes (March 2020 & October 2020)
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- ✓ Ensure it is clear that the mitigation hierarchy has been applied, in order, when recommendations and mitigation is applied.
- ✓ Ensure that there are no conflicting recommendations or conclusions.
- ✓ Ensure the EAP is provided with working files, ie: KML/KMZ/Shapefiles and if a buffer is recommended, please ensure relevant table of coordinates are provided.

### 3.2 Quotation Details

Please provide a written quote for all Phases, including a break-down of costs and indicate your availability to commence the study.

#### **4. EXPECTED DELIVERABLES**

An initial draft report covering the above requirements must be submitted to SES **four weeks** after the notice to proceed with above scope of work. The report must be prepared in a suitable font (such as Arial 12) and the format and content must comply with Appendix 6 of the amended EIA Regulations, 2017, as well as the Promulgated Protocols. The final report (which shall include any reasonable amendments in response to the EAP's comments on the initial draft, if necessary) shall be delivered **two weeks** after the draft report, assuming the EAP shall have provided comments within a week after receiving the initial draft report.





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## TERMS OF REFERENCE FOR A PALAEOLOGY / ARCHAEOLOGICAL AND CULTURAL IMPACT ASSESSMENT

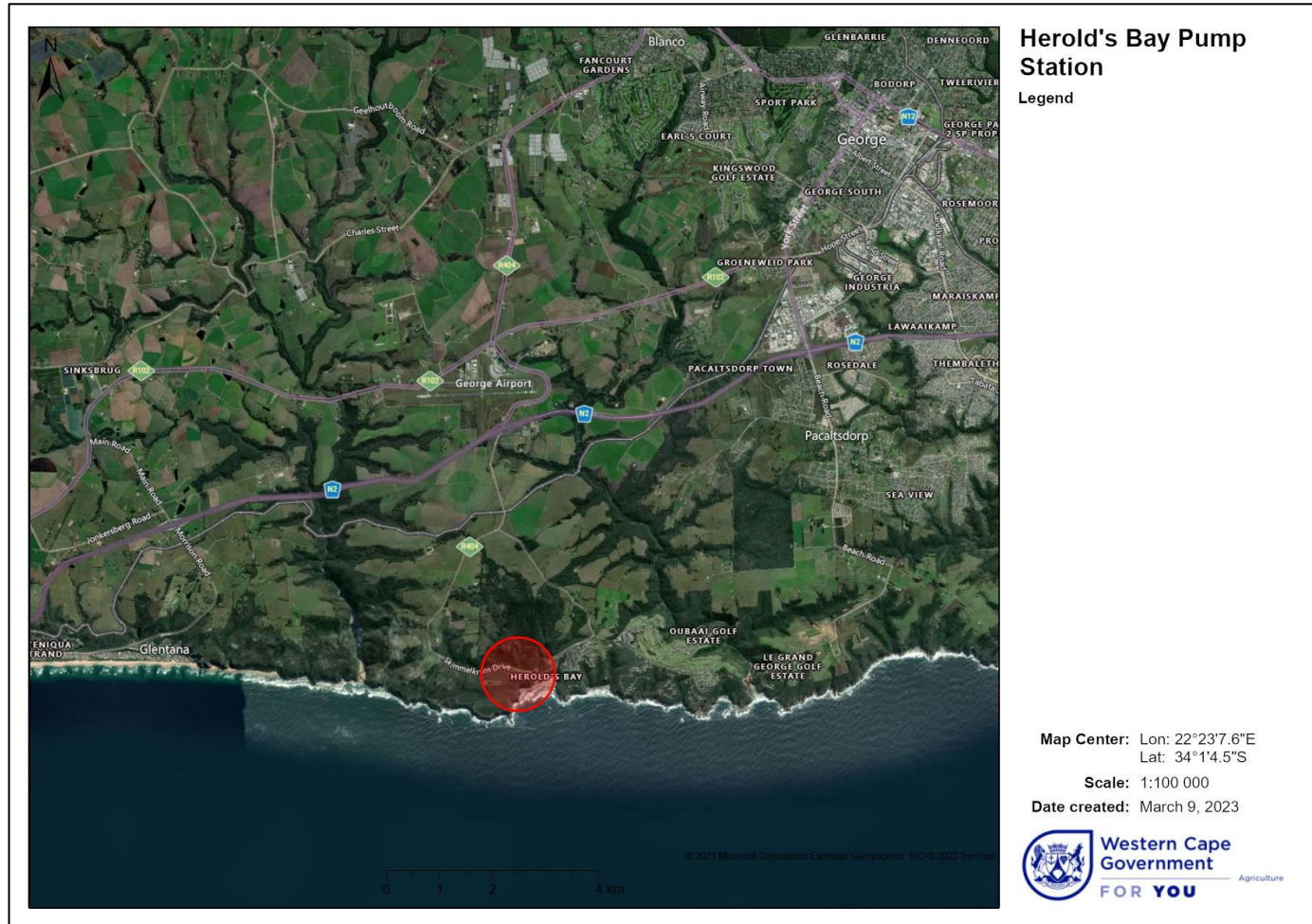
### PROPOSED UPGRADING OF THE HEROLD'S BAY PUMP STATION AND PIPELINES

#### 1. INTRODUCTION

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The properties involved are Remainder of Farm 236 and Portion 10 of Farm 236 Brakfontein as well as Erven RE/95 and 116.

#### 1.1 Location of the proposal



**Figure 1: Locality Map**

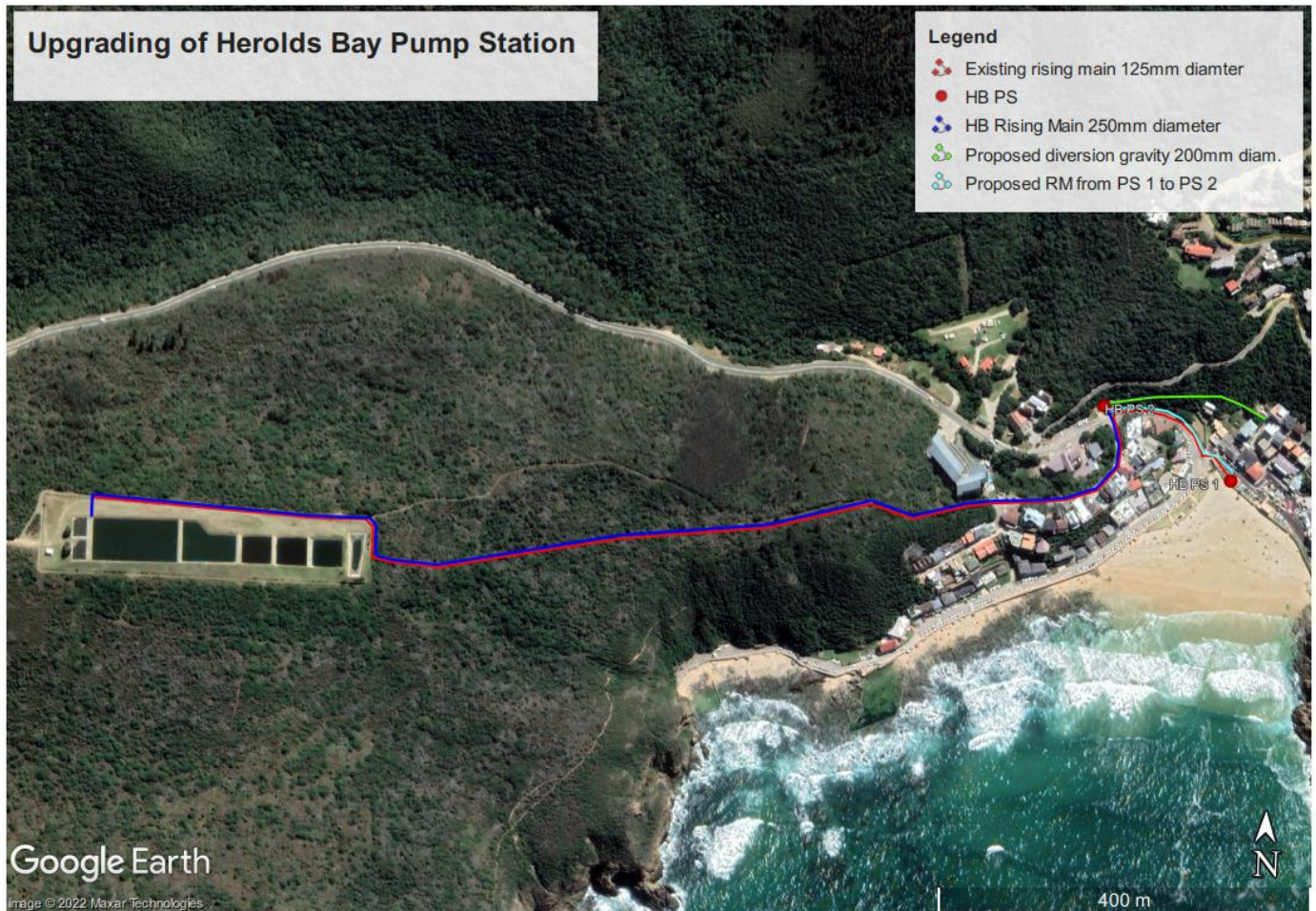


## 2. PROJECT DESCRIPTION

SMEC South Africa (Pty) Ltd has been appointed by the George Local Municipality for the Upgrading of Herold's Bay Sewer Pump Station and associated rising main.

The study area includes the following:

- The upgrading of the existing Pump Station No. 1 (PS 1)
- Construction of a new screening and de-gritting pump station (PS 2)
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- Construction of a new rising main from the Herold's Bay Pump Station (PS 1) to the new screening and de-gritting pump station



**Figure 2: The proposed scope of work.**

## 3. SCREENING TOOL REPORT

A screening report was completed on 2 March 2023. A **“Very High”** environmental sensitivity for the archaeological and heritage theme and the relative palaeontology theme.

Where a specialist assessment is required and no specific environmental theme protocol has been prescribed, the required level of assessment must be based on the findings of the site sensitivity verification and must comply with Appendix 6 of the EIA Regulations.

## 4. SPECIALIST INVOLVEMENT

- Compile and submit HWC NID for the proposed development.
- Provide us with a Compliance Statement / Impact Assessment of the proposed development on potential palaeontological resources on site.