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Cathedral Street, George, 6530

PO BOX: 9087, George, 6530**CAPE TOWN****TEL:** +27 (0) 21 554 5195 **FAX:** +27 (0) 86 575 2869**EMAIL:** betsy@sesc.net **WEBSITE:** www.sesc.net**ADDRESS:** Tableview, Cape Town, 7441**PO BOX:** 443, Milnerton, 7435

FINAL BASIC ASSESSMENT REPORT

FOR THE

**THE PROPOSED UPGRADING OF THE BULK SEWERAGE LINE
FROM AMY SEARLE STREET / GREENHAVEN TO THE CRICKET
FIELD SEWERAGE PUMPSTATION, ON ERVEN 4808, 4809,
4807, 770, 733, 83 AND REMAINDER OF FARM 4812, STREET
PARCEL RE/131 AND STREET PARCEL RE/4893, GROOT
BRAKRIVIER, MOSSEL BAY MUNICIPALITY, WESTERN CAPE
PROVINCE.**

In terms of the National Environmental Management
Act, 1998 (Act No. 107 of 1998) and the Environmental
Impact Assessment Regulations, 2014
(as amended 7 April 2017)

PREPARED FOR: Mossel Bay Municipality
Private Bag X29
Mossel Bay
6500

DATE: 14 April 2026

SES REF NO: ASP/GB/MBM/04/26
DEADP REF NO: 16/3/3/6/7/1/D6/17/0356/25

-
- Environmental Impact Assessments • Basic Assessments • Environmental Management Planning
 - Environmental Control & Monitoring • Water Use License Applications • Aquatic Assessments





**Western Cape
Government**

Department of Environmental Affairs and
Development Planning

BASIC ASSESSMENT REPORT

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

APRIL 2024



BASIC ASSESSMENT REPORT

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

APRIL 2024

(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

(This must Include an overview of the project including the Farm name/Portion/Erf number)

**THE PROPOSED UPGRADING OF THE BULK SEWERAGE LINE FROM AMY SEARLE STREET / GREENHAVEN
TO THE CRICKET FIELD SEWERAGE PUMPSTATION, ON ERVEN 4808, 4809, 4807, 770, 733, 83 AND
REMAINDER OF FARM 4812, STREET PARCEL RE/131 AND STREET PARCEL RE/4893, GROOT BRAKRIVIER,
MOSSEL BAY MUNICIPALITY, WESTERN CAPE PROVINCE.**

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. *Submission of documentation, reports and other correspondence:*

The Department has adopted a digital format for corresponding with proponents/applicants or the general public. If there is a conflict between this approach and any provision in the legislation, then the provisions in the legislation prevail. If there is any uncertainty about the requirements or arrangements, the relevant Competent Authority must be consulted.

The Directorate: Development Management has created generic e-mail addresses for the respective Regions, to centralise their administration. Please make use of the relevant general administration e-mail address below when submitting documents:

DEADPEIAAdmin@westerncape.gov.za

Directorate: Development Management (Region 1):
City of Cape Town; West Coast District Municipal area;
Cape Winelands District Municipal area and Overberg District Municipal area.

DEADPEIAAdmin.George@westerncape.gov.za

Directorate: Development Management (Region 3):
Garden Route District Municipal area and Central Karoo District Municipal area

General queries must be submitted via the general administration e-mail for EIA related queries. Where a case-officer of DEA&DP has been assigned, correspondence may be directed to such official and copied to the relevant general administration e-mail for record purposes.

All correspondence, comments, requests and decisions in terms of applications, will be issued to either the applicant/requester in a digital format via email, with digital signatures, and copied to the Environmental Assessment Practitioner ("EAP") (where applicable).

4. 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.
5. All applicable sections of this BAR must be completed.
6. 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.
7. This BAR is current as of **April 2024**. 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> to check for the latest version of this BAR.

8. 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.
9. 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.
10. 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.
11. 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.
12. 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.
13. 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.
14. 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.
15. 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: DIRECTORATE: DEVELOPMENT MANAGEMENT (REGION 1) (City of Cape Town, West Coast District, Cape Winelands District & Overberg District)	GEORGE REGIONAL OFFICE: DIRECTORATE: DEVELOPMENT MANAGEMENT (REGION 3) (Central Karoo District & Garden Route District)
The completed Form must be sent via electronic mail to: DEADPEIAAdmin@westerncape.gov.za Queries should be directed to the Directorate: Development Management (Region 1) at: E-mail: DEADPEIAAdmin@westerncape.gov.za Tel: (021) 483-5829 Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 1) Private Bag X 9086 Cape Town, 8000	The completed Form must be sent via electronic mail to: DEADPEIAAdmin.George@westerncape.gov.za Queries should be directed to the Directorate: Development Management (Region 3) at: E-mail: DEADPEIAAdmin.George@westerncape.gov.za Tel: (044) 814-2006 Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 3) Private Bag X 6509 George, 6530

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:	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. The map must indicate the following: • 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. 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. 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.
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:	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: • 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. • 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): ◦ 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 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.
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	x
	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	x
Appendix B:	Appendix B1:	Site development plan(s)	x
	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;	x
Appendix C:	Photographs		x
Appendix D:	Biodiversity overlay map		x
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	x
	Appendix E2:	Copy of comment from Cape Nature	
	Appendix E3:	Final Comment from the DWS	
	Appendix E4:	Comment from the DEA: Oceans and Coast	x
	Appendix E5:	Comment from the DAFF	
	Appendix E6:	Comment from WCG: Transport and Public Works	
	Appendix E7:	Comment from WCG: DoA	
	Appendix E8:	Comment from WCG: DHS	
	Appendix E9:	Comment from WCG: DoH	
	Appendix E10:	Comment from DEA&DP: Pollution Management	
	Appendix E11:	Comment from DEA&DP: Waste Management	
	Appendix E12:	Comment from DEA&DP: Biodiversity	
	Appendix E13:	Comment from DEA&DP: Air Quality	
	Appendix E14:	Comment from DEA&DP: Coastal Management	x
	Appendix E15:	Comment from the local authority	

	Appendix E16:	Confirmation of all services (water, electricity, sewage, solid waste management)	
	Appendix E17:	Comment from the District Municipality	
	Appendix E18:	Copy of an exemption notice	
	Appendix E19	Pre-approval for the reclamation of land	
	Appendix E20:	Proof of agreement/TOR of the specialist studies conducted.	
	Appendix E21:	Proof of land use rights	
	Appendix E22:	Proof of public participation agreement for linear activities	
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 F1:	Proof of Public Participation Process		x
Appendix F2:	I&AP List		x
Appendix F3:	Comments Recieved		x
Appendix F4:	Comments and Response Report		x
Appendix G:	Specialist Report(s)		
Appendix G1:	Estuarine Impact Assessment		x
Appendix G2:	Terrestrial Biodiversity Site Verification and Compliance Statement Report		x
Appendix G3:	Plant Species Site Verification and Compliance Statement Report		x
Appendix G4:	Animal Species Site Verification and Compliance Statement Report		x
Appendix G5:	Agricultural Compliance Statement		x
Appendix G6:	Palaeontological Impact Statement		x

Appendix G7:	HWC NID	x
Appendix G8:	Revised SSVR	x
Appendix H:	EMPr	x
Appendix I:	Screening tool report	x
Appendix J:	The impact and risk assessment for each alternative	Section H of the BAR
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	Section E of the BAR
Appendix L	Appendix of the GN No. R982 of 4 December 2014 (as amended)	x
Appendix M	C.V of EAP	x
Appendix N	Site Specific Alien Management Plan Approval Letter	x

SECTION A: ADMINISTRATIVE DETAILS

	CAPE TOWN OFFICE: REGION 1		GEORGE OFFICE: REGION 3
Highlight the Departmental Region in which the intended application will fall	(City of Cape Town, West Coast District)	(Cape Winelands District & Overberg District)	(Central Karoo District & Garden Route District)
Duplicate this section where there is more than one Proponent	Mossel Bay Municipality		
Name of Applicant/Proponent:	Mr. S. Naidoo (Municipal Manager: Mossel Bay Municipality)		
Name of contact person for Applicant/Proponent (if other):	Mossel Bay Municipality		
Company/ Trading name/State:			
Department/Organ of State:			
Company Registration Number:			
Postal address:	Private Bag X29		
	Mossel Bay	Postal code: 6500	
Telephone:	044 606 5082	Cell:	
E-mail:	dnaidoo@mosselbay.gov.za	Fax: ()	
Company of EAP:	Sharples Environmental Services cc		
EAP name:	Michael Bennett (EAP)		
	Christiaan Smit (Candidate EAP)		
Postal address:	PO Box 9087		
	George	Postal code: 6530	
Telephone:	044 873 4923	Cell:	
E-mail:	Michael@sesc.net / Christiaan@sesc.net	Fax: ()	
Qualifications:	Michael: - BSc in Environmental and Geographic Science & Ocean and Atmospheric Science. Christiaan: - MPhil in Environmental Management. - PGD in Environmental Management. - BSc in Biodiversity and Ecology.		

EAP registration no:	Michael (EAP): 2021/3163 Christiaan (Candidate EAP): 2024/8297		
Duplicate this section where there is more than one landowner Name of landowner: Name of contact person for landowner (if other): Postal address: Telephone: E-mail:	Mossel Bay Municipality		
	Mr. S. Naidoo (Municipal Manager: Mossel Bay Municipality)		
	Private Bag X29		
	Mossel Bay	Postal code: 6500	
	044 606 5082	Cell:	
	dnaidoo@mosselbay.gov.za	Fax: ()	
Name of Person in control of the land: Name of contact person for person in control of the land: Postal address: Telephone: E-mail:	Mossel Bay Municipality		
	Mr. S. Naidoo (Municipal Manager: Mossel Bay Municipality)		
	Private Bag X29		
	Mossel Bay	Postal code: 6500	
	044 606 5082	Cell:	
	dnaidoo@mosselbay.gov.za	Fax: ()	
Duplicate this section where there is more than one Municipal Jurisdiction Municipality in whose area of jurisdiction the proposed activity will fall: Contact person: Postal address: Telephone: E-mail:	Mossel Bay Municipality		
	Mr. S. Naidoo (Municipal Manager: Mossel Bay Municipality)		
	Private Bag X29		
	Mossel Bay	Postal code: 6500	
	044 606 5082	Cell:	
	dnaidoo@mosselbay.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 of greenfield site? Please explain.				
Brownfield - The proposed pipeline will be installed adjacent to an existing line which has previously been disturbed. There are also many existing structures and infrastructure along the pipeline route.					
3.	For Linear activities or developments				
3.1.	Provide the Farm(s)/Farm Portion(s)/Erf number(s) for all routes:				
- Erf 4808 - Erf4809 - Erf 4807 - RE/4812 - Erf 770 - Erf 733 - Erf 83					

- Street Parcel RE/131
- Street Parcel RE/4893

3.2.	Development footprint of the proposed development for all alternatives.	355.5m ²
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The pipeline has an internal diameter of 300mm and the proposed route is approximately 1100m long, therefore the development footprint of the pipeline will equal 330m².

17 manholes will be installed along the pipeline route, the manholes will each have a footprint of 1.5m², therefore the development footprint of the manholes will equal 25.5m².

Therefore, the total development footprint of the proposal will equal 355.5m².

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.
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The proposed development entails the installation of a sewage pipeline from the pump station south east of Long Street to the connection point located towards the north along Amy Searl Street. Please see the figures below for the proposed pipeline route and Site Development Plan (SDP). The pipe to be installed has a diameter of 300mm and the pipeline route will be approximately 1100m. 17 manholes will be installed along the pipeline route, the manholes each have a development footprint of 1.5m².



Figure 1: Proposed pipeline route.

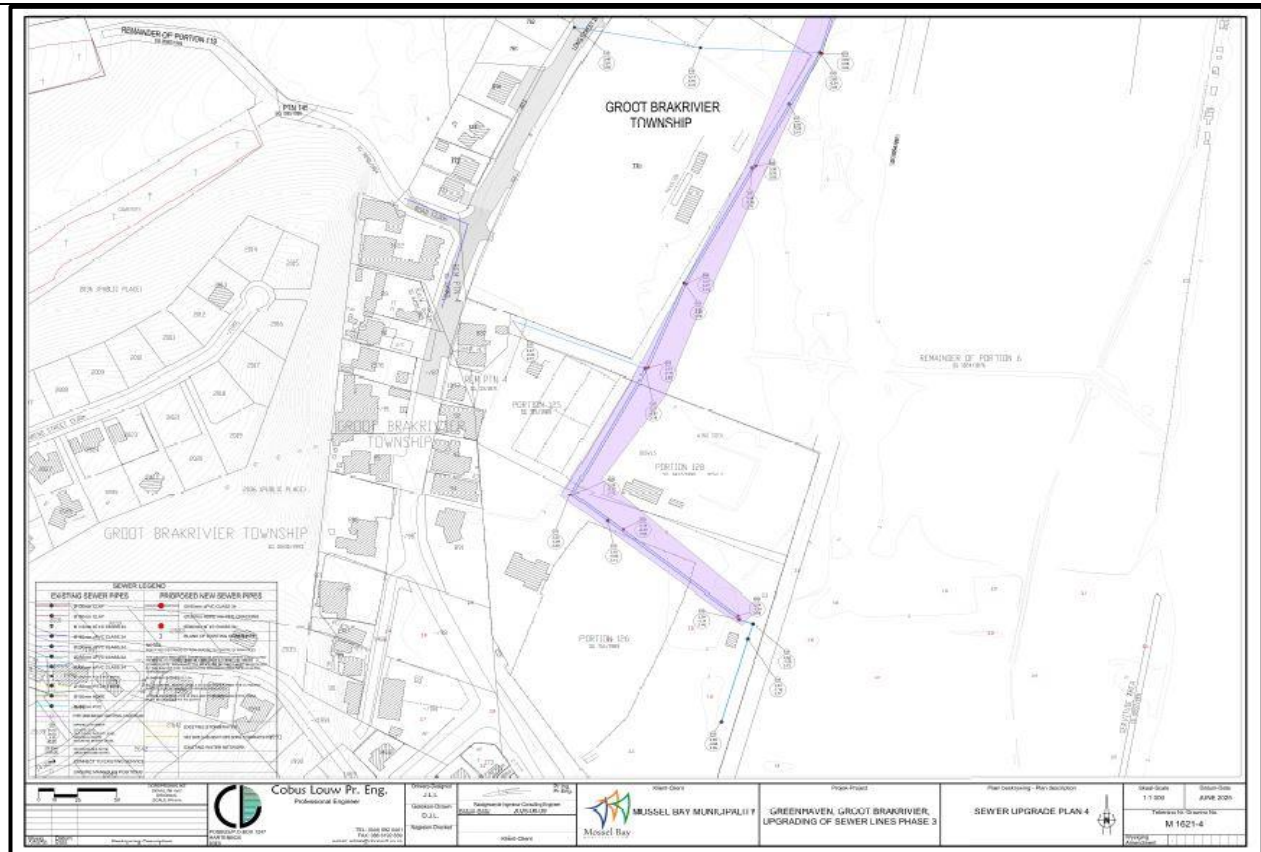


Figure 4: SDP- Cross Section 4.

The northern section of the pipeline, from Amy Searle Street (below Botha Street) to the Stasie Way intersection (from manhole D2-D14) does not trigger any Listed Activities in terms of NEMA, this section of the pipeline can also function on its own and does not require the other sections of the pipeline to be developed for it to be functional. There are also no National Water Act triggers for this section of the pipeline as confirmed by BOCMA. The upper section of the pipeline (Manhole D1) will however require a Water Use Licence Application, and this process is underway however it does not form part of this application. The middle and southern section of the pipeline (from manhole D15-D30) will trigger Listed Activities in terms of NEMA, and therefore this section will be applied for in this application.

3.4.	Indicate how access to the proposed routes will be obtained for all alternatives.			
Access to the routes will be obtained via existing dirt roads next to Long Street and Amy Searle Street, please see coordinates for access roads under point 3.6 below.				
3.5.	SG Digit codes of the Farms/Farm Portions/Erf numbers for all alternatives			
Erf 4808	C05100030000480800000			
Erf4809	C05100030000480900000			
Erf 4807	C05100030000480700000			
RE/4812	C05100030000481200000			
Erf 770	C05100030000077000000			
Erf 733	C05100030000073300000			
Erf 83	C05100030000008300000			
Street Parcel RE/131	C05100000000013100000			
Street Parcel RE/4893	C05100030000489300000			
3.6.	Starting point co-ordinates for all alternatives			
Pipeline Coordinates:	Latitude (S)	34 °	3'	4.01"
	Longitude (E)	22°	12'	59.52"
	Middle point co-ordinates for all alternatives			
	Latitude (S)	34°	2'	37.75"
	Longitude (E)	22°	13'	7.42"
	End point co-ordinates for all alternatives			

	Latitude (S)	34°	2'	22.32"
	Longitude (E)	22°	12'	51.14"
Site Camp Coordinates	Corner point coordinates of site camp			
	Latitude (S)	34°	2'	20.51"
	Longitude (E)	22°	12'	16.30"
	Latitude (S)	34°	2'	22.00"
	Longitude (E)	22°	12'	16.02"
	Latitude (S)	34°	2'	21.16"
	Longitude (E)	22°	12'	17.81"
Stockpile Area 1	Corner point coordinates of stockpile area 1			
	Latitude (S)	34°	2'	55.84"
	Longitude (E)	22°	12'	53.84"
	Latitude (S)	34°	2'	56.51"
	Longitude (E)	22°	12'	53.42"
	Latitude (S)	34°	2'	58.02"
	Longitude (E)	22°	12'	56.68"
	Latitude (S)	34°	2'	57.24"
Stockpile Area 2	Corner point coordinates of stockpile area 2			
	Latitude (S)	34°	2'	17.27"
	Longitude (E)	22°	12'	12.13"
	Latitude (S)	34°	2'	17.98"
	Longitude (E)	22°	12'	13.02"
	Latitude (S)	34°	2'	19.38"
	Longitude (E)	22°	12'	11.20"
	Latitude (S)	34°	2'	18.95"
	Longitude (E)	22°	12'	9.61"
	Latitude (S)	34°	2'	17.59"
	Longitude (E)	22°	12'	10.04"
	Latitude (S)	34°	2'	17.80"
	Longitude (E)	22°	12'	11.19"
Access Road	Starting point coordinates			
	Latitude (S)	34°	2'	2.92"
	Longitude (E)	22°	12'	51.95"
	Middle point coordinates			
	Latitude (S)	34°	2'	2.14"
	Longitude (E)	22°	12'	54.20"
	End point coordinates			
	Latitude (S)	34°	2'	1.22"
	Longitude (E)	22°	12'	55.74"
Access Road	Starting point coordinates			
	Latitude (S)	34°	2'	55.34"
	Longitude (E)	22°	12'	53.38"
	Middle point coordinates			
	Latitude (S)	34°	2'	56.68"
	Longitude (E)	22°	12'	55.65"
	End point coordinates			
	Latitude (S)	34°	2'	55.50"
	Longitude (E)	22°	12'	58.32"
Access Road	Starting point coordinates			
	Latitude (S)	34°	2'	42.17"
	Longitude (E)	22°	12'	3.48"
	Middle point coordinates			
	Latitude (S)	34°	2'	42.48"
	Longitude (E)	22°	12'	3.80"

Access Road	End point coordinates			
	Latitude (S)	34°	2'	42.79"
	Longitude (E)	22°	12'	4.22"
	Starting point coordinates			
	Latitude (S)	34°	2'	38.98"
	Longitude (E)	22°	12'	6.19"
	Middle point coordinates			
	Latitude (S)	34°	2'	39.20"
	Longitude (E)	22°	12'	6.62"
	End point coordinates			
	Latitude (S)	34°	2'	39.49"
	Longitude (E)	22°	12'	7.20"
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):			m²
4.2.	Developed footprint of the existing facility and associated infrastructure (if applicable):			m²
4.3.	Development footprint of the proposed development and associated infrastructure size(s) for all alternatives:			m²
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).			
4.5.	Indicate how access to the proposed site(s) will be obtained for all alternatives.			
4.7.	Coordinates of the proposed site(s) for all alternatives:			
	Latitude (S)	°	'	"
	Longitude (E)	°	'	"

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.
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- Amended Environmental Impact Assessment Regulations, GN No. R. 324 – 327 (7 April 2017)
- The Constitution of the Republic of South Africa, 1996 (Act 108 of 1996)
- Spatial Planning and Land Use Management Act, No. 16 of 2013 (SPLUMA)
- Infrastructure Development Act, 2014 (Act No. 23 of 2014)
- The National Environmental Management Laws Amendment Act, 2022

4. Policies

Explain which policies were considered and how the proposed activity or development complies and responds to these policies.

- National Development Plan 2030 (2012);
- Western Cape Provincial Spatial Development Framework (PSDF) 2014;
- Mossel Bay Municipality Spatial Development Framework (SDF);

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.

Guideline on Need and Desirability (2013/2017)	Guideline considered during the assessment of the Need and Desirability of the proposed development project.
Guideline on Environmental Management Plans (2005)	Guideline considered in the compilation of the EMP attached to this Basic Assessment Report.
Guideline for the Review of Specialist Input into the EIA Process (2005)	Guideline considered during the review and integration of specialist input into this Basic Assessment Report.
Integrated Environmental Management Information Series 7: Cumulative Effects Assessment (2004)	Guideline considered during the assessment of the cumulative effect of the identified impacts.
Guideline on Public Participation (2013)	Guideline considered in the undertaking of the public participation for the proposed development. All relevant provisions contained in the guideline were adhered to in the basic assessment process as appropriate, except where an exemption/deviation has been granted by the Competent Authority.
Guideline on Alternatives (2013)	Guideline considered when identifying and evaluating possible alternatives for the proposed development. Alternatives that were considered in the impact assessment process are reported on in this Basic Assessment Report (see Section E).
Guideline for Involving Hydrogeology Specialists in the EIA Process (2005)	Guideline considered however the EAP determined that it is not applicable as the proposal does not trigger any of the activity types listed in Table 1 of the Guideline for Involving Hydrogeology Specialists in the EIA Process (2005). The proposal is for the replacement of an existing sewerage pipeline within an existing disturbed corridor and does not constitute a new greenfield development, no effluent or chemicals will be handled or discharged into the surrounding environment. The proposal will not abstract groundwater or have any effect on groundwater storage or the groundwater flow regime.

Table 1: Activity types that call for hydrogeological specialist involvement <table border="1"> <thead> <tr> <th>Groundwater related impact types</th><th>Examples of activities</th></tr> </thead> <tbody> <tr> <td>Where effluent or chemicals with the potential to change groundwater quality is handled as part of the project, or discharged into the environment due to the project.</td><td> - Storage and handling of hazardous materials - Cemeteries - Waste disposal sites - Waste water treatment works - Use of nitrogen and phosphate fertilizers - Piggeries - Irrigation with polluted water, etc. </td></tr> <tr> <td>The volume of groundwater in storage or entering groundwater storage is changed beyond what is allowed by the DWAF General Authorisations.</td><td> - Starting or ending a groundwater abstraction scheme - Surface water impoundments - Drainage of wetlands - Surface hardening that changes natural rainwater infiltration and groundwater recharge - Significant changes in vegetation cover - Agricultural irrigation - Streamflow reduction activities such as those identified in the National Water Act, etc. </td></tr> <tr> <td>The groundwater flow regime is changed by the proposed project.</td><td> - Excavations and cuttings - Developments on floodplains that restrain/restrict subsurface flow and the connectivity between groundwater and surface water systems - Open pit mines or mine shafts - Tunnels - Operations that result in the draining of wetlands etc. </td></tr> </tbody> </table>		Groundwater related impact types	Examples of activities	Where effluent or chemicals with the potential to change groundwater quality is handled as part of the project, or discharged into the environment due to the project.	- Storage and handling of hazardous materials - Cemeteries - Waste disposal sites - Waste water treatment works - Use of nitrogen and phosphate fertilizers - Piggeries - Irrigation with polluted water, etc.	The volume of groundwater in storage or entering groundwater storage is changed beyond what is allowed by the DWAF General Authorisations.	- Starting or ending a groundwater abstraction scheme - Surface water impoundments - Drainage of wetlands - Surface hardening that changes natural rainwater infiltration and groundwater recharge - Significant changes in vegetation cover - Agricultural irrigation - Streamflow reduction activities such as those identified in the National Water Act, etc.	The groundwater flow regime is changed by the proposed project.	- Excavations and cuttings - Developments on floodplains that restrain/restrict subsurface flow and the connectivity between groundwater and surface water systems - Open pit mines or mine shafts - Tunnels - Operations that result in the draining of wetlands etc.
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In addition, the Aquatic Specialist that was appointed to conduct an Estuarine Impact Assessment, Dr. James Dabrowski from Confluent, has concluded the following with regards to the water resources on site: The majority of the upgrades to the sewage pipeline will occur in transformed sections of the EFZ and no estuarine habitat will be directly disturbed in these zones. Where the pipeline does traverse estuarine habitat (Zone D of Appendix G1), it does so within an existing servitude. Impacts to estuarine wetland habitat can however be mitigated to a low or negligible significance of impact and it is recommended that authorisation for the upgrade is granted.									
Guideline for Involving Heritage Specialists in the EIA Process (2005)	Guideline considered to determine heritage specialist involvement in the EIA process. Please refer to Appendix G6 for the Palaeontological Impact Statement, Appendix G7 for the HWC NID compiled by the heritage specialist, and Appendix E1 for the final comment/ROD from Heritage Western Cape.								
Guideline for Involving Biodiversity Specialists in the EIA Process (2005)	Guideline considered to determine biodiversity specialist involvement in the EIA process. Please refer to Appendix G1, G2, G3 and G4 for all the biodiversity specialist reports that have been compiled as part of the BAR 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	
The following specialist studies were undertaken for this proposal:	
Specialist Assessment	Assessment Protocol
Terrestrial Biodiversity Impact Assessment – Compliance Statement	Terrestrial
Animal Species Assessment – Compliance Statement	Terrestrial Animal Species
Aquatic Biodiversity Impact Assessment	Aquatic
Plant Species Assessment	Terrestrial Plant Species
Agricultural Impact Assessment – Compliance Statement	Agriculture

Archaeological and Cultural Heritage Impact Assessment – NID	General
Palaeontology Impact Assessment – Compliance Statement	General

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.
12	The development of— (i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100 square metres; or (ii) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs— (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse; — excluding— (aa) the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (bb) where such development activities are related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; (cc) activities listed in activity 14 in Listing Notice 2 of 2014 or activity 14 in Listing Notice 3 of 2014, in which case that activity applies; (dd) where such development occurs within an urban area; (ee) where such development occurs within existing roads, road reserves or railway line reserves; or (ff) the development of temporary infrastructure or structures where such infrastructure or structures will be removed within 6 weeks of the commencement of development and where indigenous vegetation will not be cleared.	There are non-perennial drainage lines run across and along the proposed pipeline route, the total development footprint of the pipeline is equal to 355.5m². Therefore, this activity will be triggered by the proposed development.

17	Development— (ii) in the sea; (ii) in an estuary; (iii) within the littoral active zone; (iv) in front of a development setback; or (v) if no development setback exists, within a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever is the greater; in respect of— (a) fixed or floating jetties and slipways; (b) tidal pools; (c) embankments; (d) rock revetments or stabilising structures including stabilising walls; or (e) infrastructure or structures with a development footprint of 50 square metres or more — but excluding— (aa) the development of infrastructure and structures within existing ports or harbours that will not increase the development footprint of the port or harbour; (bb) where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies; (cc) the development of temporary infrastructure or structures where such structures will be removed within 6 weeks of the commencement of development and where coral or indigenous vegetation will not be cleared; or (dd) where such development occurs within an urban area.	A section of the pipeline route occurs within 100m of the high water mark of an estuary; the total footprint of the pipeline is 355.5m². Therefore, this activity will be triggered by the proposed development.
19	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse; but excluding where such infilling, depositing, dredging, excavation, removal or moving— (a) will occur behind a development setback;	A non-perennial drainage line crosses the pipeline route, this could result in the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse. Therefore, this activity could potentially be triggered by the proposed development.

	(b) is for maintenance purposes undertaken in accordance with a maintenance management plan; (c) falls within the ambit of activity 21 in this Notice, in which case that activity applies; (d) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or (e) where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.	
19A	The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from— (i) the seashore; (ii) the littoral active zone, an estuary or a distance of 100 metres inland of the highwater mark of the sea or an estuary, whichever distance is the greater; or (iii) the sea; — but excluding where such infilling, depositing, dredging, excavation, removal or moving— (f) will occur behind a development setback; (g) is for maintenance purposes undertaken in accordance with a maintenance management plan; (h) falls within the ambit of activity 21 in this Notice, in which case that activity applies; (i) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.	Sections of the pipeline route occur within 100m inland of the highwater mark of an estuary, this could result in the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres. Therefore, this activity could potentially be triggered by the proposed development.
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.
12	The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of	The pipeline route will entail the clearance of more than 300 square meters of vegetation. According to the VegMap 2024 Beta, the area is

	indigenous vegetation is required for maintenance purposes undertaken in accordance with a Maintenance management plan. i. Western Cape 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; ii. Within critical biodiversity areas identified in bioregional plans; iii. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas; iv. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning; or v. On land designated for protection or conservation purposes in an Environmental Management Framework adopted in the prescribed manner, or a Spatial Development Framework adopted by the MEC or Minister.	mapped as having Groobrak Dune Strandveld Vegetation with an Ecosystem Threat Status of Critically Endangered. According to the WCBSP 2023, the pipeline route also intersects with areas mapped as CBAs. Sections of the pipeline route also occur within 100m inland of the high water mark of an estuary. Some of the properties through which the pipeline route runs are zoned Open Space Zone I and Open Space Zone II. Therefore, this activity will be triggered by the proposed development.
14	The development of— (i) dams or weirs, where the dam or weir, including infrastructure and water surface area exceeds 10 square metres; or (ii) infrastructure or structures with a Physical footprint of 10 square metres or more; where such development occurs— (a) within a watercourse; (b) in front of a development setback; or (c) if no development setback has	The pipeline route crosses a non-perennial drainage line, and it occurs within 32m of non-perennial drainage lines. The development footprint of the pipeline is 355.5m². Therefore, this activity will be triggered by the proposed development.

	been adopted, within 32metres of a watercourse, measured from the edge of a watercourse; excluding the development of infrastructure or structures within existing ports or harbours that will not increase the development footprint of the port or harbour. <u>i. Western Cape</u> i. Outside urban areas: (aa) A protected area identified in terms of NEMPAA, including conservancies; (bb) National Protected Area Expansion Strategy Focus areas; (cc) World Heritage Sites; (dd) Sensitive areas identified in environmental management frameworks by the competent authority; (ee) Sites or areas listed in terms of an international convention; (ff) Critical biodiversity areas or ecosystem service areas identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; (gg) Core areas in biosphere reserves; or (hh) Areas on the estuary side of the development setback line or in an estuarine functional zone where no such setback line has been determined.	
Note: - 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.
The proposed development entails the installation of a sewage pipeline from the pump station south east of Long Street to the connection point located towards the north along Amy Searl Street. Please see the figures below for the proposed pipeline route and Site Development Plan (SDP). The pipe to be installed has a diameter of 300mm and the pipeline route will be approximately 1100m. 17 manholes will be installed along the pipeline route, the manholes each have a development footprint of 1.5m².	



Figure 5: Proposed pipeline route.

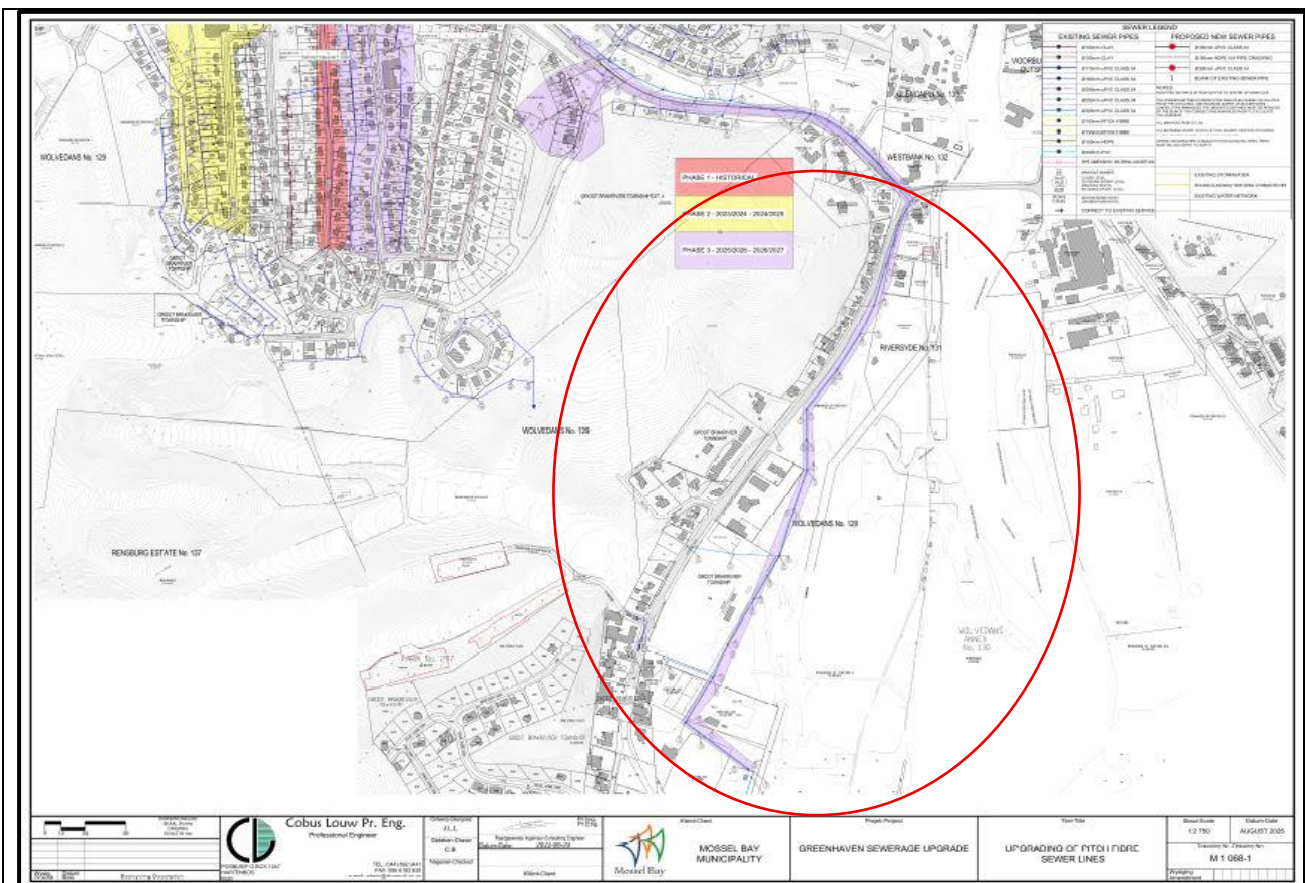


Figure 6: SDP- Total Layout.

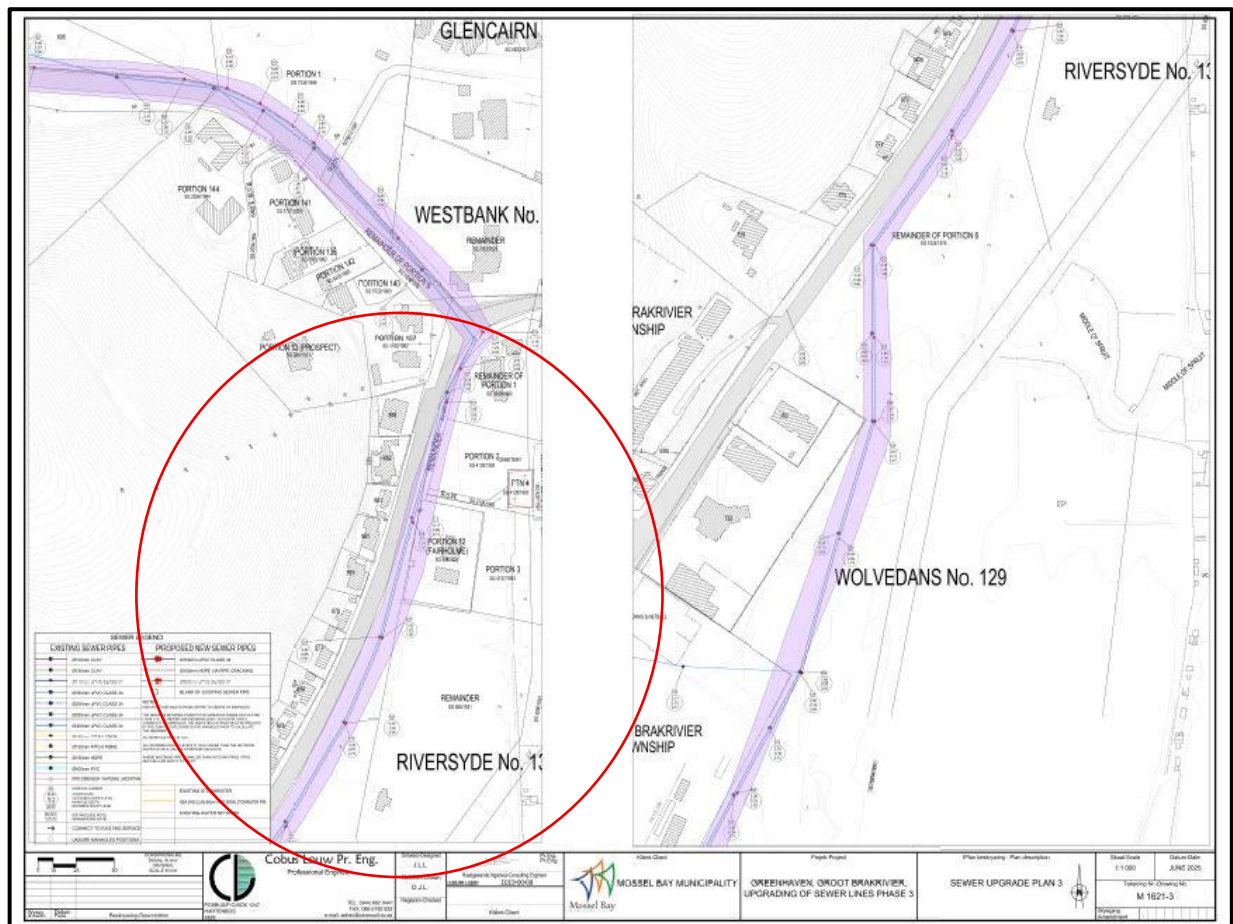


Figure 7: SDP- Cross Section 3.

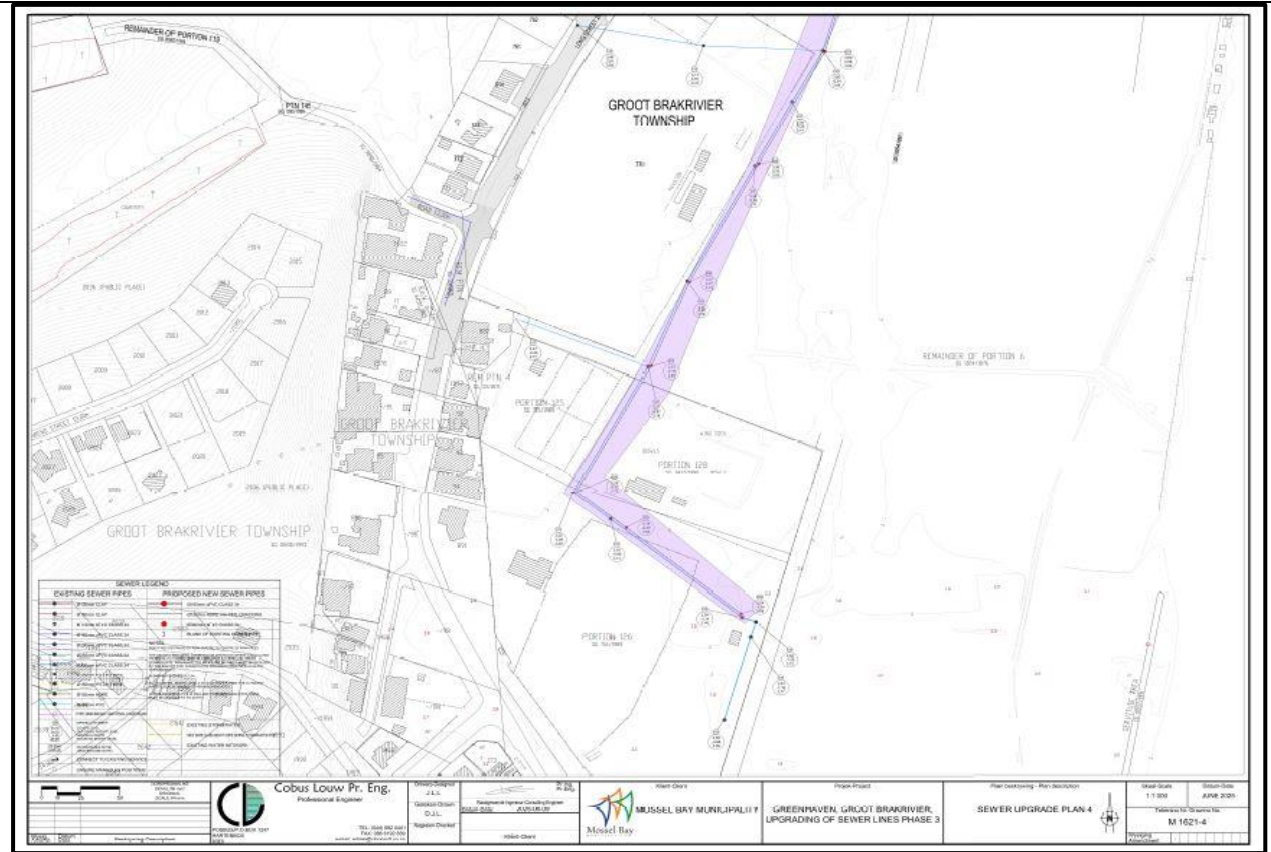


Figure 8: SDP- Cross Section 4.

The northern section of the pipeline, from Amy Searle Street (below Botha Street) to the Stasie Way intersection (from manhole D2-D14) does not trigger any Listed Activities in terms of NEMA, this section of the pipeline can also function on its own and does not require the other sections of the pipeline to be developed for it to be functional. There are also no National Water Act triggers for this section of the pipeline as confirmed by BOCMA. The upper section of the pipeline (Manhole D1) will however require a Water Use Licence Application, and this process is underway however it does not form part of this application. The middle and southern section of the pipeline (from manhole D15-D30) will trigger Listed Activities in terms of NEMA, and therefore this section will be applied for in this application.

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.

Proposed pipeline route occurs adjacent to an existing sewage pipeline and is therefore in line with the existing land use rights.

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.

No potential conflicts associated with this proposal.

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

4.1 The Provincial Spatial Development Framework.

The proposed development aligns with the Provincial Spatial Development Framework in the following ways:

- **Policy R2 – Safeguard Coastal and Inland Water Resources:**

Section 3.1.4 - Sustaining the province's ecological and agricultural resources states "Introduce and retrofit appropriate levels of water and sanitation systems technologies in settlements to prevent contamination of surface and groundwater resources". This PSDF Policy supports the replacement or upgrading of aging wastewater infrastructure in coastal towns, like Grootbrak Rivier, to protect estuaries, wetlands and aquifers from pollution.

- **Policy E1 – Use Regional Infrastructure Investment to Leverage Economic Growth:**

Section 3.3.1 - Ensuring sustainable, integrated infrastructure planning states "Plan, budget and invest in regional infrastructure (including water and sanitation) in ways that support efficient, inclusive growth and improve service delivery". The installation of the proposed sewerage pipeline represents public infrastructure investment that supports environmental health, local development, and economic resilience. It's consistent with this PSDF Policy's call for coordinated infrastructure upgrades to sustain settlements and reduce backlogs.

- **Strategic Integrated Project 18 (SIP 18) – Upgrading of Water and Sanitation Infrastructure:**

SIP 18 focuses on the upgrading of water and sanitation infrastructure across the Western Cape to improve service delivery and public health. The proposed development directly implements a provincial strategic priority by improving sanitation infrastructure and addressing health, environmental, and service delivery needs in the Garden Route District.

- **Section 3.1.4 – Sustainable Management of Inland and Coastal Systems:**

"Rehabilitate and protect rivers, wetlands and estuaries through improved management of wastewater and stormwater." The pipeline traverses an Estuarine Functional Zone, so upgrading it reduces contamination risks and improves compliance with the National Estuarine Management Protocol.

- **Chapter 4 – Implementation: Planning-led, Infrastructure-enabled Development:**

"Promote a planning-led, infrastructure-enabled approach that directs investment in water, sanitation and energy services to settlements best suited for growth.". The proposed development exemplifies this principle as it calls for the upgrade of essential infrastructure within an existing urban node (Grootbrak Rivier) rather than expanding into new, undeveloped areas.

4.2	The Integrated Development Plan of the local municipality.
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The proposed development aligns with the Integrated Development Plan of the Mossel Bay Municipality in the following ways:

- **Section 6.1.2 – Sewerage and Sanitation:**

The IDP outlines the existing municipal sewerage system and identifies ageing infrastructure and blockages as major challenges. The proposal therefore aligns with this section of the IDF as it proposes the upgrade of the sewerage pipeline along Amy Searle Street, Grootbrak Rivier which directly supports these municipal priorities, particularly the emphasis on replacement of ageing sewer infrastructure.

- **Strategic Objective 1 – Basic Service Delivery and Infrastructure Development:**

The IDP's Strategic Objective 1 commits to "creating an inclusive, responsive, and healthy environment conducive for living and sustainable growth" through improved sewerage and sanitation services. The development proposal supports this objective by improving bulk sanitation infrastructure in an established urban area, contributing to the municipality's goal of efficient, competitive, and environmentally sustainable service delivery.

4.3.	The Spatial Development Framework of the local municipality.
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The proposed development aligns with the integrated development plan of the Mossel Bay Municipality in the following ways:

- **Policy 4M – Bulk Municipal Service Infrastructure:**

"Bulk municipal infrastructure (water, sewerage, electricity, roads, stormwater, refuse removal) is the basis for delivering on the municipal mandate and timeous investment in needed infrastructure is crucial." and "bulk services provision should be master plan based, and master planning should use the SDF proposals as a point of departure." The Sewerage pipeline proposal thus directly fulfils this policy by upgrading critical bulk sanitation infrastructure within the defined urban edge of Grootbrak Rivier, thereby supporting sustainable service delivery and settlement restructuring.

- **Policy 1B – Manage and Protect the Coastline, Rivers and Estuaries:**

"The impact of settlements and bulk infrastructure along rivers and estuaries must be monitored and managed to minimize pollution." The proposed pipeline route lies within the Estuarine Functional Zone of Grootbrak Rivier and is intended to reduce effluent leakage and improve water quality,

directly contributing to this policy's aim of protecting coastal and estuarine systems from contamination.	
4.4.	The Environmental Management Framework applicable to the area.
No EMF for the area.	
5.	Explain how comments from the relevant authorities and/or specialist(s) with respect to biodiversity have influenced the proposed development.
Comments from authorities to be included in the Final BAR following comments received during the Public Participation Process. The site sensitivity is verified to be low from a terrestrial biodiversity perspective and not very high as rated in the environmental screening tool. This finding is based on: • No functional plant communities of the original vegetation unit (groot brak dune strandveld) remain in the proposed development footprint. The other vegetation unit listed in the environmental screening tool report, garden route granite fynbos, is not present in the proposed development footprint. • The critical biodiversity areas that are located within the proposed linear development footprint area are mostly transformed and would also return to their current state within two years. The specialist therefore recommends that the development proceed as planned from a terrestrial biodiversity perspective if the mitigation measures in section 9 of the specialists' report (Appendix G2) are captured in the environmental management plan report. These have been included in the EMPr (Appendix H).	
6.	Explain how the Western Cape Biodiversity Spatial Plan (including the guidelines in the handbook) has influenced the proposed development.
Critical Biodiversity Areas (CBAs) are areas that must be safeguarded in their natural or near-natural state because they are essential for conserving biodiversity and maintaining ecosystem functioning. The spatial planning map for Groot Brakrivier (Figure 9) indicates that the proposed development footprint does not cross over any terrestrial CBA. The footprint does intersect with CBA Wetland and CBA Estuary near Lang Street. Figure 10 provides a zoomed-in version of Figure 9 to show more detail on the CBA Wetland demarcation. No Ecological Support Areas (ESAs) are mapped near the proposed development footprint. ESAs that are not essential for meeting biodiversity targets but play an important role in supporting the functioning of protected areas or critical biodiversity areas are often vital for delivering ecosystem services. The 2023 Western Cape Biodiversity Spatial Plan (WC BSP) was formally adopted into law on the 13th of December 2024 (Gazette Extraordinary 9017) in alignment with the Western Cape Biodiversity Act (No. 6 of 2021). This marks the replacement of the 2017 WC BSP with the 2023 WC BSP.	

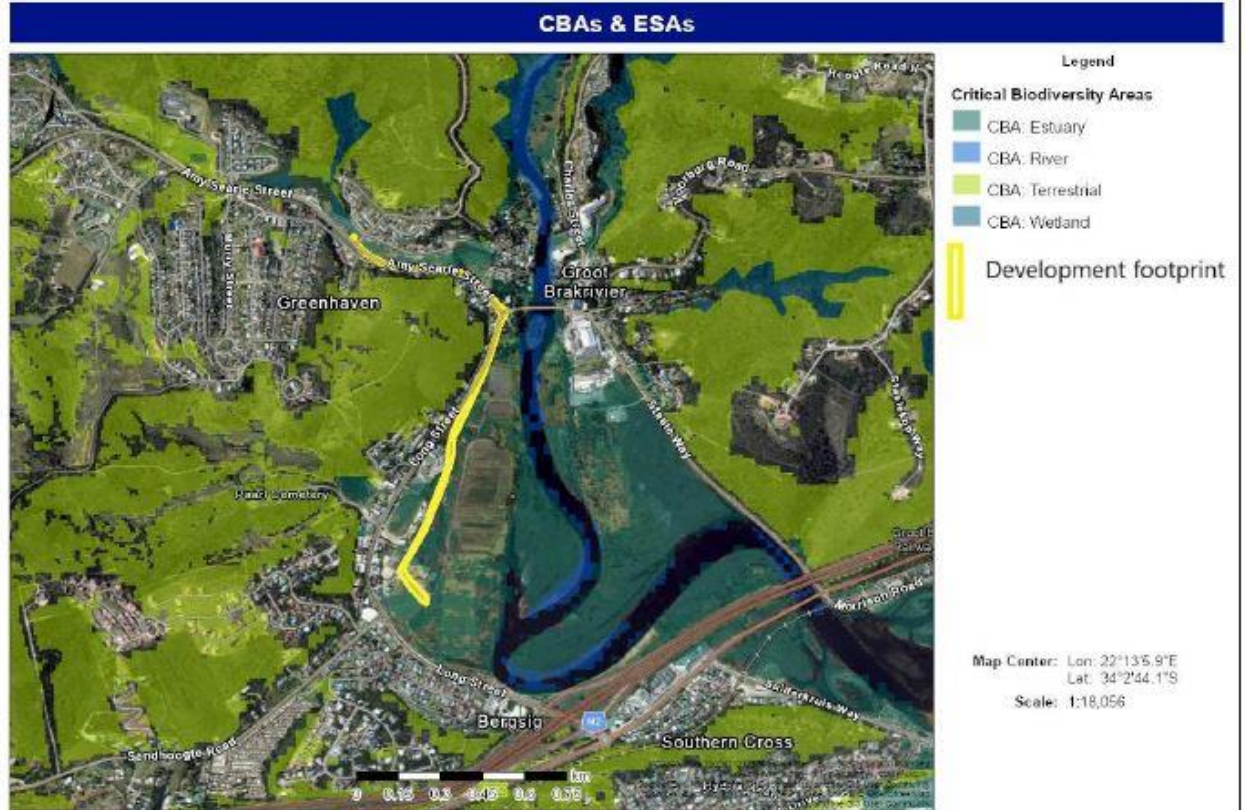


Figure 9: Critical Biodiversity Areas and Ecological Support Areas.

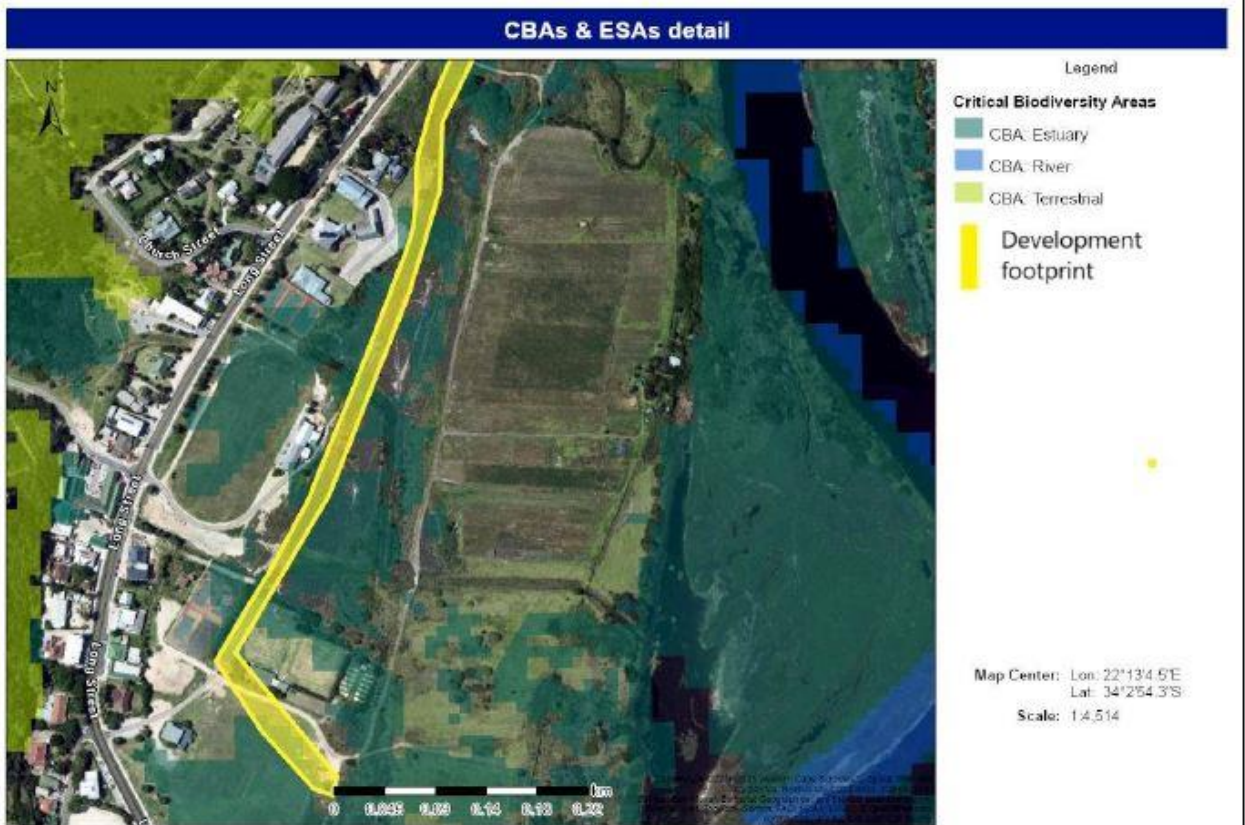


Figure 10: Critical Biodiversity Areas and Ecological Support Areas.

The Biodiversity Spatial Plan (2017) for the Western Cape provides reasons for the inclusion of areas into CBAs. These reasons for the CBAs at the proposed development footprint are summarized in Table 1.

Table 1: Reasons for the inclusion of CBAs at the proposed development footprint.

Summary 1:	Climate adaptation corridor (14.28), Ecological processes (8.82), Estuary (14.29), River Type (3.21), SA Vegetation Type (2.32), Threatened SA Vegetation Type (8.13), Threatened Vertebrate (11.4), Water resource protection (7.69)
Feature 1:	Bontebok Extended Distribution Range
Feature 2:	Cape Coastal Lagoons (LT)
Feature 3:	Climate adaptation corridor
Feature 4:	FEPA River Corridor
Feature 5:	Groot Brak Dune Strandveld (EN)
Feature 6:	Groot Brak Estuary
Feature 7:	Southern Coastal Belt Permanent Lowland River
Feature 8:	Watercourse protection- Southern Coastal Belt

7. Explain how the proposed development is in line with the intention/purpose of the relevant zones as defined in the ICMA.

- **Coastal Protection Zone**

The intention of the CPZ is to maintain and enhance the natural functioning of coastal ecosystems and to ensure that any activity within it does not degrade coastal processes or water quality. The proposed pipeline replaces ageing infrastructure that poses a pollution risk to the estuary and groundwater. By preventing sewage leakage and improving wastewater conveyance, the project directly supports the purpose of the CPZ which is maintaining the health of the estuarine system and protecting water quality, habitats, and public health.

- **Coastal Public Property**

The intention of this zone is to ensure public ownership, access, and environmental protection of the coastal edge (including estuaries, the sea, and the seashore). The pipeline alignment lies landward of the main estuarine waterbody and will not restrict public access nor alter the public coastal property boundary. Construction activities will be temporary and managed in line with an approved Environmental Management Programme (EMPr), maintaining the integrity of public coastal land. Thus, the proposal respects the ICMA principle that coastal public property must remain accessible and ecologically functional.

- **Coastal Access Land**

The ICMA requires municipalities to designate and manage land for safe public access to the coast. The proposed sewer line will not impede any existing coastal access points and may in fact enhance environmental quality along public pathways by reducing odour and contamination risks. The proposal is consistent with maintaining functional and safe coastal access.

- **Estuarine Functional Zone and Coastal Setback Lines**

The ICMA and the Western Cape Coastal Management Programme (2017) emphasize the importance of protecting estuaries through delineation of Coastal Management Lines (CMLs) and adherence to setback principles. The pipeline alignment follows previously disturbed municipal servitudes and will not encroach into the dynamic littoral active zone. Rehabilitation measures (e.g., re-vegetation and erosion control) will ensure the long-term stability and ecological resilience of the estuary margin. The project complies with ICMA Section 23 principles to avoid and minimize adverse impacts on the coastal environment and human safety.

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.

The Screening Tool Reports have not changed.

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

The proposed sewerage pipeline will optimise the use of vacant land within the existing urban area by improving the capacity and efficiency of the municipal wastewater network. This infrastructure enhancement enables infill development and densification on serviced plots, reduces pressure for urban expansion, and ensures that municipal investment is focused within the current urban edge.	
10.	Explain how the proposed development will optimise the use of existing resources and infrastructure.
The proposed sewerage pipeline upgrade will optimise the use of existing resources and infrastructure by rehabilitating and re-utilising an existing municipal sewer corridor within the urban area. It improves system efficiency, reduces environmental risk, and extends the operational life of existing assets without requiring new bulk infrastructure.	
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).
N/A – it is proposed to upgrade an existing pipeline (service).	
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 Environmental Management Guideline on Need and Desirability. This may be attached to this BAR as Appendix K.
In order to properly interpret the EIA Regulations' requirement to consider "need and desirability", it is necessary to turn to the principles contained in NEMA, which serve as a guide for the interpretation, administration and implementation of NEMA and the EIA Regulations. With regard to the issue of "need", it is important to note that this "need" is not the same as the "general purpose and requirements" of the activity. While the "general purpose and requirements" of the activity might to some extent relate to the specific requirements, intentions and reasons that the applicant has for proposing the specific activity, the "need" relates to the interests and needs of the broader public. In this regard the NEMA principles specifically inter alia require that environmental management must: • "place people and their needs at the forefront of its concern" and equitably serve their interests; • "be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option; • pursue environmental justice "so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person"; • ensure that decisions take "into account the interests, needs and values of all interested and affected parties"; and • ensure that the environment is "held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage". Community Wellbeing – Clean Water and Sanitation Sewer systems are essential to the wellbeing of a community. They help to transport wastewater filled with bacteria out of the area and to a place for treatment, so that clean water can be safely distributed back into the environment. But there's a lot that goes into maintaining this essential infrastructure, and every section of it requires routine inspections maintenance, upgrades and upkeep to protect the community it serves.	

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.

N/A – All of the adjacent landowners along the proposed pipeline route were included in the I&AP register, a PAIA Application was submitted to the Mossel Bay Municipality to obtain their contact details for the I&AP register. A letter drop was undertaken for 6 properties.

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

Please refer to Appendix F1 for the Proof of the PP. Two site notices were erected along the pipeline route, one across the cricket field sewerage pump station next to Long Street and the other further north of Long Street. In addition, a PAIA Application was submitted to the Mossel Bay Municipality and the majority of the contact details (email) for all of the adjacent landowners to the proposed pipeline route were obtained. For the properties where the Municipality was unable to get contact details (6 properties), physical letter drops were undertaken, we managed to obtain email addresses for 4 of these properties and they were all added to the I&AP list.

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

Please refer to the I&AP register (Appendix F2).

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

Only relevant State Departments , and those requested by the DEADP, were requested to comment.

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

Western Cape Government: Department of Agriculture
Garden Route District Municipality
Cape Nature
Mossel Bay Municipality: Ward 4 Councillor
Mossel Bay Municipality: Ward 5 Councillor
Western Cape Government: Department of Infrastructure

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.

Please refer to the comments and response report, Appendix F4.

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 – Dr. James Dabrowski			
2.3.	Explain how the presence of watercourse(s) and/or wetlands on the property(ies) has influenced your proposed development.		
<u>Study area characteristics:</u> The Great Brak estuary falls in quaternary catchment K20A (Figure 11). The main river flowing through the catchment area is the Groot Brak River. The estuary falls within level 22.02 of the Southern Coastal Belt ecoregion, which is characterised by moderately undulating plains of moderate relief with altitude ranging from 0 to 500 m above mean sea level. Mean annual precipitation for the catchment area is relatively high (between 300 and 700 mm per annum), and occurs year-round, with peaks in late winter and early spring (August to October). According to Van Niekerk et al. (2019), the estuary is classified as a warm temperate, large temporarily closed system with the mouth closed for the majority of the time. The EFZ extends from the coast approximately 6.5 km further upstream, beyond the Searle's Bridge and further up the Great Brak River. The estuary is approximately 6 km long and has a water surface area of 0.6 km ² at high tide, and a tidal prism of 0.3 x 10 ⁶ m ³ (DEADP, 2018). The lower reaches of the estuary are mostly shallow (0.5 to 1.2 m deep), comprising of extensive sand banks. Deeper areas are associated with scouring zones near the rocky cliffs and bridges (Human et al., 2016). The middle reaches are also relatively shallow and are characterised by larger intertidal and floodplain salt marsh areas – much of which has been transformed into agricultural land. A summary of the composition of different natural habitat types occurring in the estuary is provided in (Table 2). A large proportion of the area of the EFZ has been transformed from natural habitat to schools and agricultural, commercial and residential properties.			

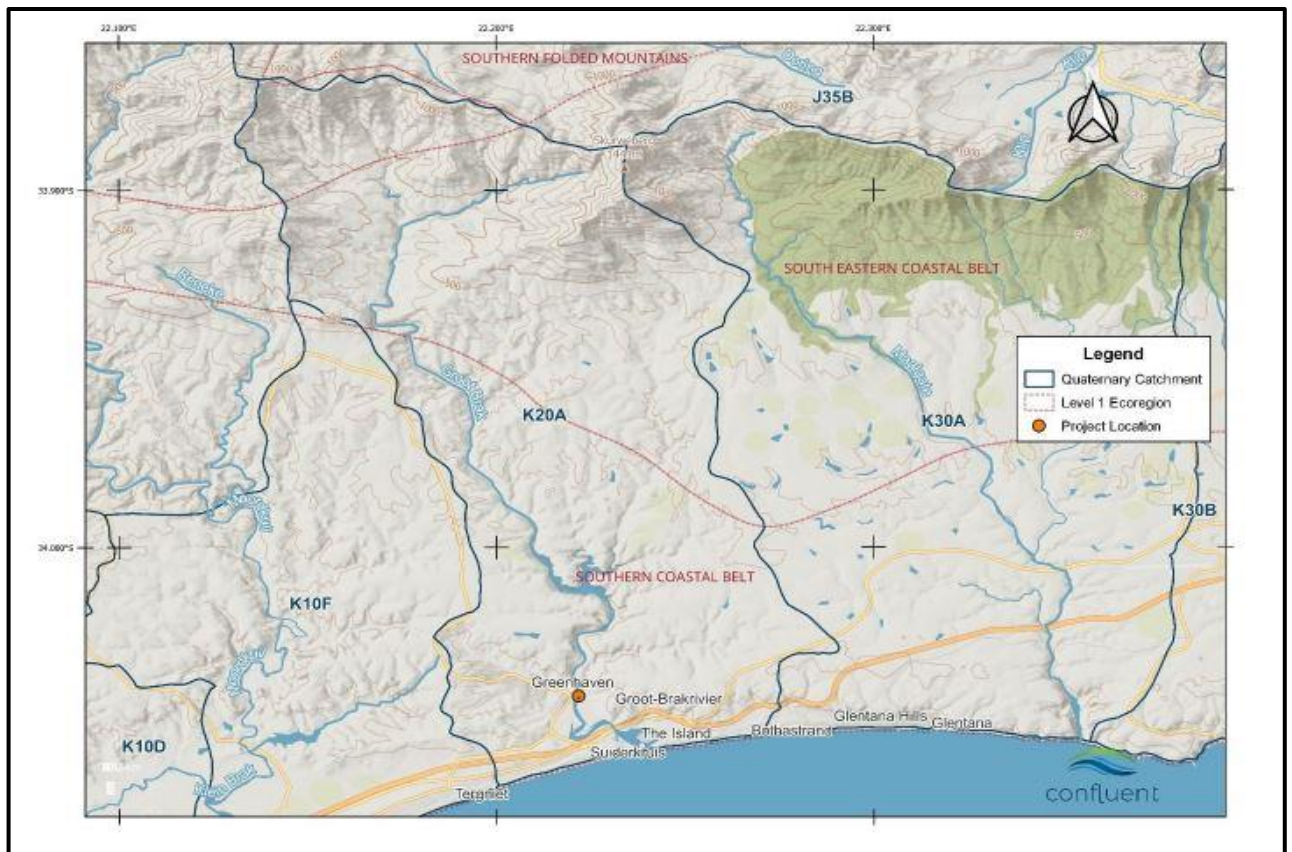


Figure 11: Location of the project area relative to quaternary catchment K20A.

Table 2: Composition of different habitat types in the Great Brak estuary.

Habitat	Area (ha)	Area (%)
Inter-tidal Salt Marsh	13.0	12.3
Supratidal Salt Marsh	26.6	25.3
Submerged Macrophytes	0	0
Reeds & Sedges	2.5	2.4
Mangroves	0	0
Sand/Mud Banks	29.9	28.4
Open Water	33.1	31.5
Rocks	0	0
Swamp Forest	0	0
Macroalgae	0	0
TOTAL	105.1	100

According to the Great Brak EMP (DEADP, 2018) benthic invertebrates of the Great Brak estuary are dominated by the mudprawn (*Upogebia Africana*), the sandprawn (*Callinassa kraussi*) and the bivalve (*Loripes clausus*). Diversity and abundance is considered to be low relative to other closed estuaries in the region. Zooplankton biomass and abundance in the estuary is typical of temporarily closed systems and is dominated by the copepods *Acartia longiptella* (during closed phases) and *Pseudodiaptomus hessei* (during open phases). A total of 33 species of fish from 21 families have been recorded from the Great Brak estuary, which is considered to be high compared to other temporarily open/closed estuaries in the region.

A total of 52 non-passerine waterbird species have been recorded on the Great Brak estuary (excluding vagrants), with 39 of these species being recorded during summer, and 41 in winter. Numbers of birds on the estuary are relatively low, however. The estuary supports an average of about 240 birds in mid-summer and 153 in mid-winter. The estuary is ranked 135th out of 258 estuaries in terms of its avifauna.

National Freshwater Ecosystem Priority Atlas (NFEPA):

The Great Brak estuary is located in sub-quaternary catchment (SQC) 9083 (Figure 11), which, according to the National Freshwater Ecosystem Priority Atlas (NFEPA, Nel et al., 2011), has been classified as a Fish Support Area (FSA). FSAs are SQCs that are not necessarily in a good ecological condition but are still essential for protecting threatened or near-threatened freshwater fish species that are indigenous to South Africa. The management goal of FSAs is to prevent additional fish species from becoming threatened or to prevent threatened or near-threatened species from becoming extinct. In order to achieve these objectives, there should be no further deterioration in river condition. Freshwater fish species that are expected to occur in the Great Brak River are listed in Table 3. Of these species *A. mossambica* and *M. capensis* are likely to also occur within the estuary. Both of these species are catadromous and breed at sea, with juveniles migrating through estuaries and into freshwater systems until they reach maturity (after which they migrate back to the sea). *G. zebratus* and *S. capensis* are endemic to South Africa but are not expected to occur in estuarine environments.

Table 3: List of freshwater fish species that occur in the Great Brak River.

Scientific Name	Common Name
<i>Anguilla mossambica</i>	African Longfin Eel
<i>Galaxius zebratus</i>	Cape Galaxius
<i>Myxus capensis</i>	Freshwater Mullet
<i>Sandelia capensis</i>	Cape Kurper

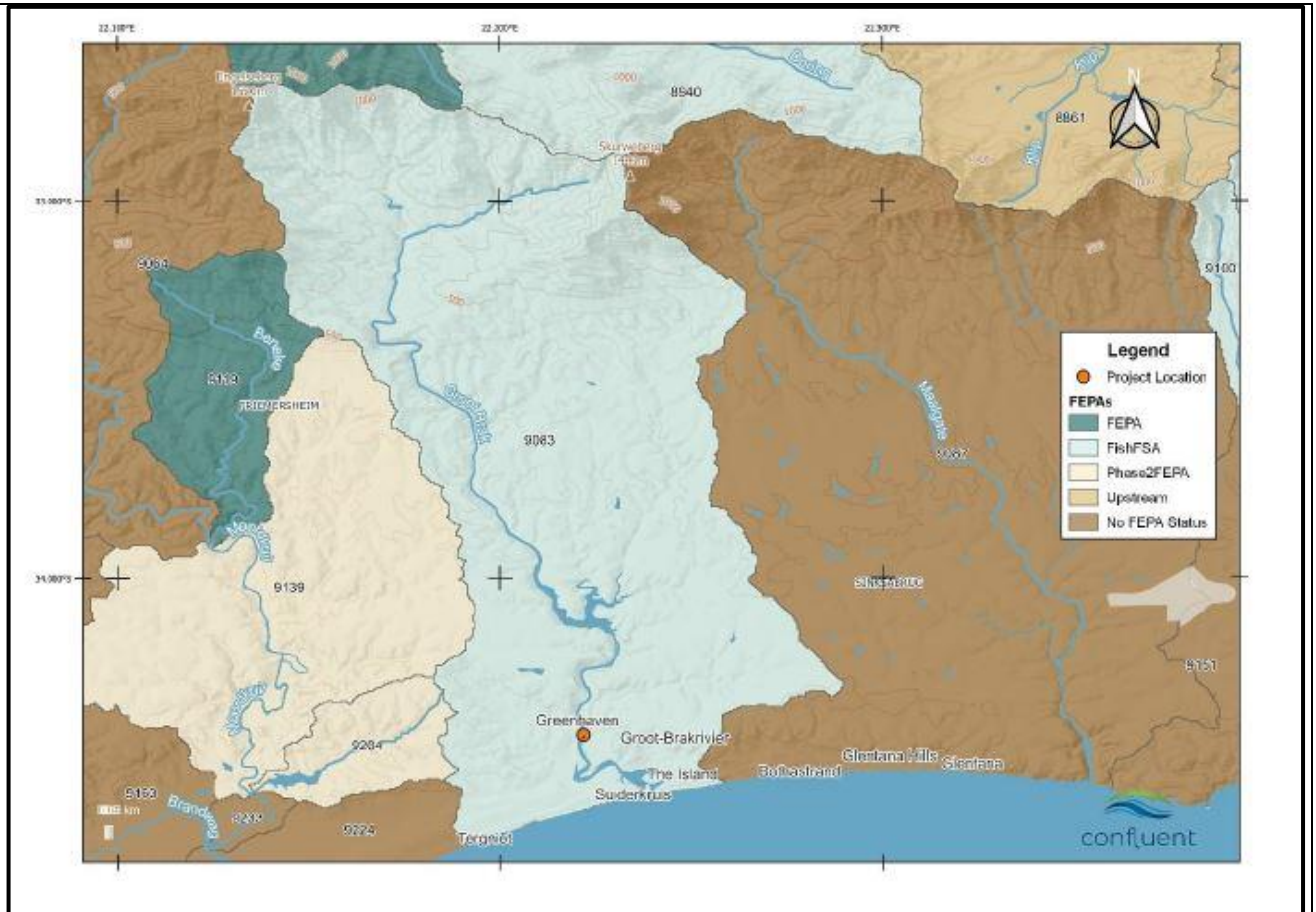


Figure 12: Map indicating the location of the project area in relation to FEPAs.

Present Ecological State (PES) and Ecological Importance and Sensitivity (EIS):

Great Brak Estuary

The rapid level assessment for the Great Brak estuary confirmed the Present Ecological State as C/D – Moderately to Largely Modified (Van Niekerk et al., 2014) indicating that while loss and/or change of natural habitat and biota has occurred, the basic ecosystem functions and processes remain predominantly unchanged. In this respect alterations to water quality and the hydrodynamics of the estuary (e.g. prolonged mouth closure) are considered the most important variable with respect to impacts on habitat (Table 4). This in turn has notably influenced the majority of biotic indicators, with macrophytes, fish and birds most heavily affected. The Recommended Ecological Category (REC) is also set at D. The EIS of the estuary is presented in Table 5 and is rated as Important.

Table 4: Present Ecological State (PES) of the Groot Brak Estuary as determined by Van Niekerk et al. (2015).

Variable	Weight
Hydrology	C
Hydrodynamics and Mouth Condition	C/D
Water Quality	D
Physical Habitat Alteration	B
Habitat Health Score	C
Microalgae	C/D
Macrophytes	D/E
Invertebrates	D
Fish	D/E
Birds	C
Biotic Health Score	D
PES	C/D

Table 5: Estuarine Importance Scores (EIS) of the Groot Brak Estuary (Turpie and Clark, 2007).

Criteria	Weight	Score
Estuary Size	15	90
Zonal Rarity Type	10	80
Habitat Diversity	25	10
Biodiversity Importance	25	80
Functional Importance	25	77
Weighted Estuary Importance Score		63.25

Unchanneled Valley Bottom Wetland

As described in Section 5.1, the extent of the wetland has decreased over time and has also been artificially drained, presumably to accommodate development within the adjacent areas and to control flooding. The short length of channel upstream of Botha Street, was originally part of this broader wetland area. Despite these modifications the wetland is relatively large, provides good habitat for aquatic biota and its hydro-functional attributes remain largely unchanged and the PES is C – Moderately Modified (Table 6).

Table 6: Present ecological state (PES) of the unchannelled valley bottom wetland.

Final (adjusted) Scores				
PES Assessment	Hydrology	Geomorphology	Water Quality	Vegetation
Impact Score	4.8	1.2	3.0	3.0
PES Score (%)	52%	88%	70%	70%
Ecological Category	D	B	C	C
Confidence (revised results)	Not rated	Not rated	Not rated	Not rated
Combined Impact Score	3.2			
Combined PES Score (%)	68%			
Combined Ecological Category	C			

The ecological importance and sensitivity of and the ecosystem services provided by the wetland are summarised as follows:

- The ecological importance and sensitivity of the wetland is Moderate. The wetland is relatively large and provides permanent reed-bed habitat which is likely to provide habitat for red-data bird species. The wetland is sensitive to changes in water quality and flow and (Table 7);
- The hydro-functional importance and sensitivity of the wetland is Moderate. The wetland does provide moderately important supporting and regulating ecosystem services, including flood attenuation, streamflow regulation and pollutant assimilation capabilities (Table 8);
- Provisioning (e.g. water for abstraction, harvestable materials, cultivated and livestock foods) and cultural (e.g. recreation, tourism, education and research) services provided by the wetland are Low (Table 9).
- The overall importance and sensitivity of the wetland is **Moderate**.

Table 7: Ecological Importance and Sensitivity criteria for the wetland.

Ecological Importance and Sensitivity	Score
Biodiversity Support	
Presence of Red Data species	2- Rare or endangered avifauna likely to utilise the wetland.
Populations of unique species	1 – Relatively low probability of unique species
Migration/feeding/breeding sites	1 – Low importance
Average	1.66
Landscape Space	
Protection status of wetland	1 – Public area
Protection status of vegetation type	0 – Vegetation has been transformed
Regional context of the ecological integrity	2 – Moderate (PES C)
Size and rarity of the wetland types present	2 – Moderate, relatively large, unchannelled valley bottom wetland
Diversity of habitat types	1 – Low diversity – dominated by <i>P. australis</i> reedbeds
Average	1.2
Sensitivity of Wetland	
Sensitivity to changes in floods	2 – Moderate sensitivity
Sensitivity to changes in low flows	3 – High sensitivity
Sensitivity to changes in water quality	1 – Low sensitivity
Average	2
ECOLOGICAL IMPORTANCE AND SENSITIVITY	2 (Moderate)

Table 8: Hydro-functional importance of the wetland.

Hydro-functional Importance		Score
Regulating & supporting benefits	Flood attenuation	2
	Streamflow regulation	2
	Sediment trapping	2
	Phosphate assimilation	2
	Nitrate assimilation	2
	Toxicant assimilation	2
	Erosion control	1
	Carbon storage	2
HYDRO-FUNCTIONAL IMPORTANCE		1.5 (Moderate)

Table 9: Direct human benefit importance of the wetland.

Direct Human Benefits		Score
Subsistence benefits	Water for human use	0 – No formal abstraction occurring
	Harvestable resources/cultivated foods	1 – Reedbeds provide harvestable resources but unlikely to be heavily utilised
Cultural benefits	Cultural heritage	0
	Tourism and recreation Education and research	1 – Potential bird-watching opportunities
DIRECT HUMAN BENEFITS		0.4 (Low)

While the entire pipeline route is mapped within the EFZ, long sections of the route run through urbanised, transformed habitat. Five distinct zones have been identified (Figure 13).

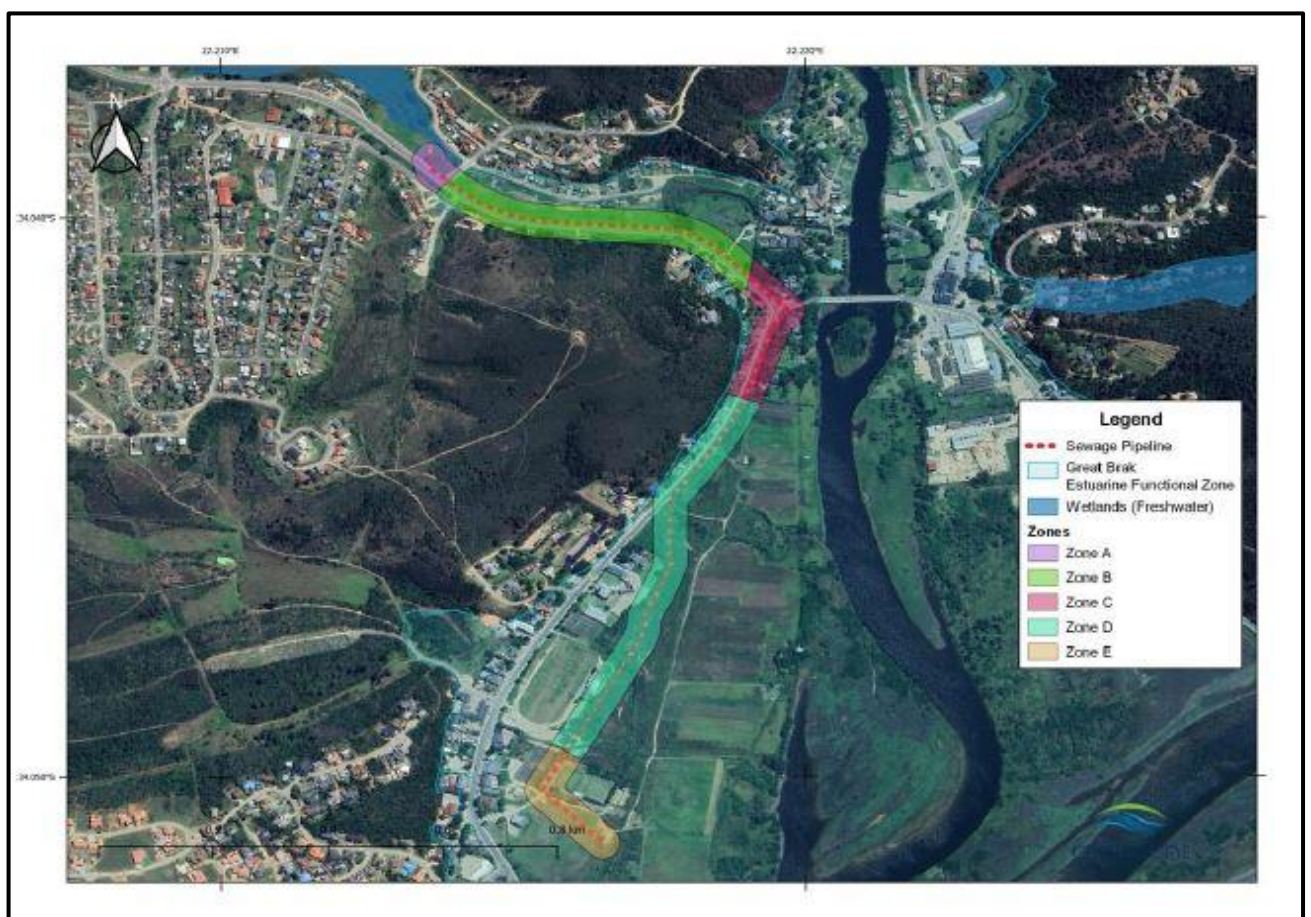


Figure 13: Habitat zones identified along the route of the proposed sewage pipeline upgrade.

Site Specific Impacts:

Each of the zones is characterised as follows:

- **Zone A:** The upper-most manhole linked to the proposed pipeline upgrade is located adjacent to a channel that extends from a large *Phragmites australis* dominated unchannelled valley-bottom wetland (Figure 14). Other prominent species include *Nidorella ivifolia* and *Cyperus textilis*. The channel is narrow and receives stormwater input from the surrounding area. The channel drains water from the wetland and has been diverted from its

original course, which used to run closer to Amy Searle Street (see Section 5.1). This wetland falls outside of the EFZ and is considered as freshwater habitat (not estuarine). **(Please note that this section does not form part of this application and is therefore not applicable.)**



Figure 14: Photographs of the wetland (left) and the channel extending from the lower end of the wetland towards the EFZ (right).

- **Zone B:** The upper section of the pipeline (running adjacent to Amy Searle Street) runs through a grassed public open space area (Figure 15). Open water estuarine habitat has been transformed into a concrete-lined canal. The pipeline route along this section runs immediately beneath the sidewalk and does not traverse through any natural estuarine habitat. The closest distance to the canal is approximately 20 m. Several stormwater channels drain stormwater from Amy Searle Street down towards the canal. The canal has undergone many modifications in the past and has been diverted from its natural course (see Section 5.1 of Appendix G1). There is a patch of estuarine wetland vegetation that extends away from the channel towards Amy Searle Street. This is a remnant of the historical channel that used to run closer to Amy Searle Street (see Section 5.1 of Appendix G1). The wetland area is dominated by *P. australis* reedbeds but also includes *C. textilis* and *N. ivifolia*. There are clear signs of historical excavation within the wetland as was by vegetated mounds of soil around the perimeter (adjacent to Amy Searle Street). These mounds have been invaded by alien tree species – most notably *Melia azedarach* (*Syringa*). **Please note that this section does not form part of this application and is therefore not applicable.)**



Figure 15: Photographs of the grassed area adjacent to the canal (top left), the canal lined with open concrete pavers (top right), a stormwater channel leading from Amy Searle Street down towards the canal (bottom left) and a patch of remnant wetland vegetation in close proximity to Amy Searle Street (bottom right).

- **Zone C:** This section of the pipeline follows Long Street and runs immediately adjacent to the road and sidewalk. The pipeline runs through a transformed section of the EFZ and does not run through or adjacent to any natural estuarine habitat.
- **Zone D:** The pipeline route passes through natural, estuarine habitat located immediately adjacent to Long Street and eventually deviates from Long Street and passes through estuarine habitat, characterised by stands of *Phragmites australis* and patches of salt marsh vegetation (Figure 16). The habitat is supratidal and lies above the level of the highest high tide. Several stormwater channels that divert stormwater off of Long Street intersect with the pipeline route. While, the pipeline passes along an existing, disturbed servitude, the habitat immediately adjacent to the servitude is considered to be sensitive. This zone largely coincides with mapped aquatic CBA1 and CBA2 habitat.



Figure 16: Examples of estuarine habitat located immediately adjacent to the sewer line servitude, including *Juncus kraussii* sedge beds (top left), *P. australis* reed beds (top right), salt marsh (bottom left) and vegetated stormwater channels extending from Long Street further into the interior of the EFZ (bottom right).

- **Zone E:** The final section of the pipeline passes through the Great Brak municipal sport grounds complex where any former natural estuarine habitat has once again been transformed (roads, parking areas and sports fields) - Figure 17.



Figure 17: Paved roads and sports fields in Zone E (left and right).

Sensitivity

Habitat zones (as described above) were assigned sensitivity ratings based on the proximity of the pipeline to estuarine habitat (Figure 18):

- **Low sensitivity (Zone C and E):** These zones are located outside of natural estuarine habitat and are unlikely to have any impact on aquatic biodiversity.
- **Medium sensitivity (Zone A and B):** These zones are located outside of natural freshwater and estuarine habitat but are in close enough proximity to warrant precautions that prevent impacts – particularly during the construction phase. **(Please note that this section does not form part of this application and is therefore not applicable.)**
- **High Sensitivity (Zone D):** This zone traverses through or runs in very close proximity to natural estuarine habitat. Precautions must be taken to minimise impacts to natural estuarine habitat during the construction and operational phase.

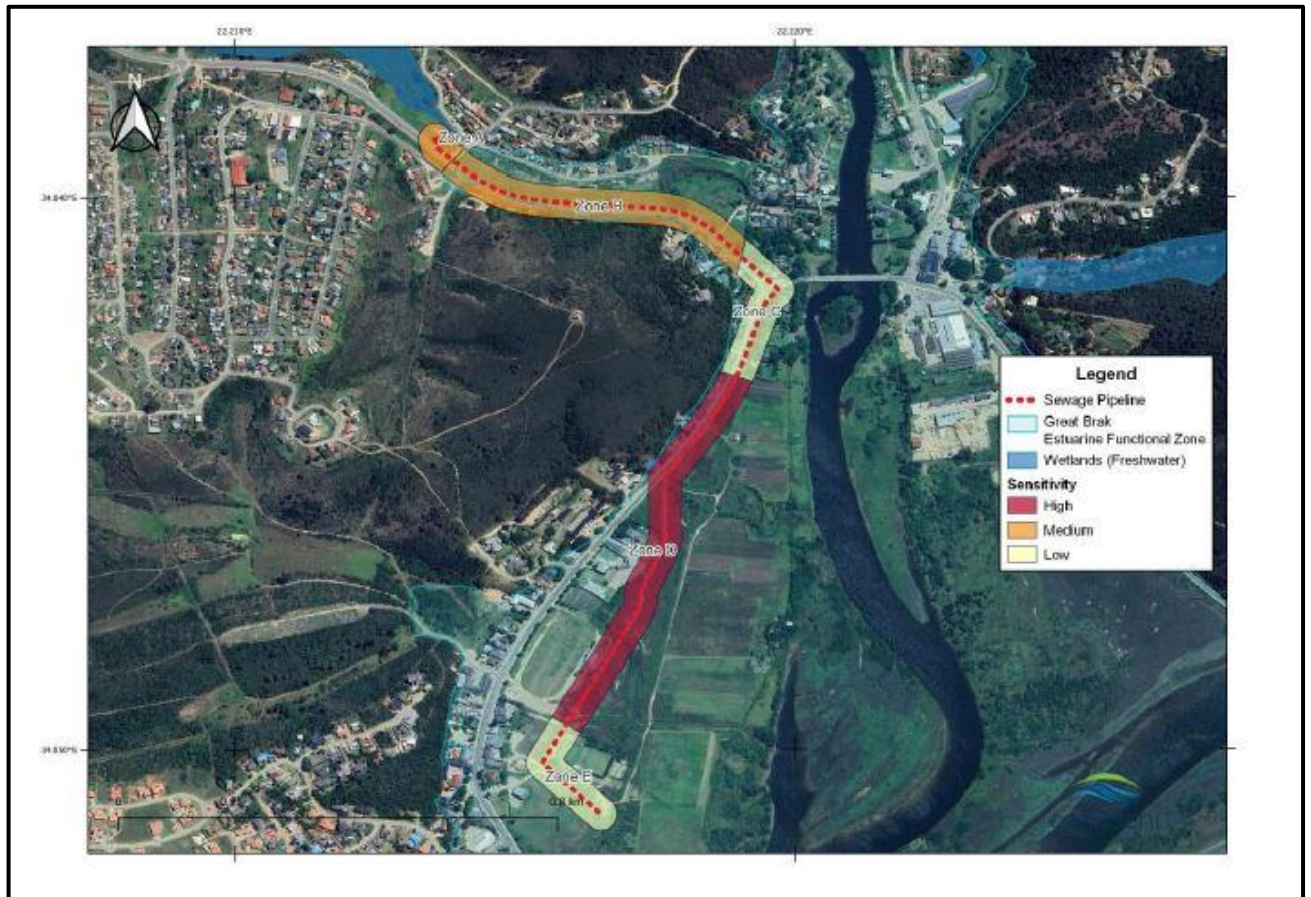


Figure 18: Sensitivity of zones.

Conclusion of specialist:

The majority of the upgrades to the sewage pipeline will occur in transformed sections of the EFZ (Zone A, B, C and E) and no estuarine habitat will be directly disturbed in these zones. Where the pipeline does traverse estuarine habitat (Zone D), it does so within an existing servitude. Impacts to estuarine wetland habitat can however be mitigated to a low or negligible significance of impact and it is recommended that authorisation for the upgrade is granted.

Mitigation measures

In response to the potential impacts of the proposed development, the specialist has recommended the following mitigation measures:

Layout and Design Phase

- Air valves along sewer lines must be elevated above the 1:100-year flood line
- Sewer manhole covers should not be made of metal because of the risk of theft.
- Manholes must be designed to be watertight to prevent environmental contamination from leaking sewage and to avoid ingress of surface water during rainfall and flood events. Watertight manholes achieve this seal using components like gaskets on the manhole cover,

proper joint sealing between sections, and leak-resistant pipe-to-manhole connections, which are essential for system integrity and cost efficiency.

Construction Phase

- An Environmental Control Officer (ECO) must be appointed for the duration of the construction phase to monitor and report back on compliance with conditions of the environmental authorisation.
- Consult weather forecasts daily and weekly. Do not work during rainfall and minimise the storage of mobile materials in low-lying areas. Plan the construction area as if it could be inundated with floodwaters in the event of a significant rainfall event.
- Construction access for the pipeline through Zone D should utilise existing access points from Long Street. No new roads should be necessary.
- The width of the working area through Zone D must be as narrow as possible and must be clearly demarcated. Estuarine habitat outside of this demarcated area must be considered as No-Go areas.
- Revegetation of the pipeline through Zone D must be actively encouraged. The route is currently well covered by indigenous vegetation (e.g. sedges, *P. australis*, *Stenotaphrum secundatum* etc.). It is recommended that when trenching, a top layer of vegetation in association with 20-30 cm of soil should be removed and set aside for replanting or covering the filled in trench.
- Open trenching for sewer lines should be done in as short a stretch as possible and backfilled with material as soon as possible to reduce the likelihood of material loss in the event of flooding
- Keep a skip on site so that any waste materials can be conveniently discarded and removed. This includes small amounts of dirty water, such as that used for mixing concrete.
- Equipment and materials lay-down areas should be located away from estuarine habitat and stormwater channels leading into the estuary. Minimise the storage of loose materials in case of a flood event that could wash them into the estuary.
- Post-construction site clean-up must be completed to ensure the entire site footprint and surrounding area has been cleared of litter and any waste materials associated with construction. The ECO should be informed of the construction close-out and complete an inspection to ensure this measure has been implemented.
- The pipeline route through Zone D must be routinely inspected for the establishment of alien invasive plant species. This must be done at a high frequency following construction (i.e. monthly) and can be reduced once natural vegetation along the pipeline has recovered. These must be controlled by hand. No aerial application of herbicides is permitted. Herbicides may only be applied to cut-stumps and must be registered for use on the target plant species.

Operational Phase

- When blockages to sewerage infrastructure within the EFZ occur, the maintenance team should ensure a honey-sucker is on standby to mop up any spills or overflows for removal and disposal at the Wastewater Treatment Works.
- Any serious sewage spills that result in large quantities of sewage leaking from a pump station or manhole must be contained in a temporary coffer dam which can be constructed using sandbags for the walls and plastic sheeting as a base. From here, honey-suckers can collect sewage for removal.
- Any water-tight seals around manholes, joints or other access points that must be broken for maintenance should be replaced thereafter to ensure the mitigation measures to prevent water ingress or sewage leakage are maintained under flood scenarios.
- Keep sewer lines clear of dense vegetation to facilitate access and reduce the risk of roots cracking sewer lines.
- All of the mitigation measures provided for the construction phase are applicable to maintenance work where applicable.

3. Coastal Environment

3.1.	Was a specialist study conducted?	YES	NO
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3.2.	Provide the name and/or company who conducted the specialist study.
Confluent – Dr. James Dabrowski	
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.
a) Representations made by the applicant and by interested and affected parties: The BAR will be out for a round of public participation which will give the relevant authorities and interested and affected parties the opportunity to comment on the proposal. Any questions or comments raised by the relevant authorities and interested and affected parties will be addressed in a Comments and Response Table, and this will be included with the submission of the Final BAR to this department. b) The extent to which the applicant has in the past complied with similar authorisations: The Mossel Bay Municipality has consistently complied with environmental and coastal management authorisations issued under the ICMA and NEMA. The Municipality maintains an established environmental management system, employs qualified Environmental Control Officers (ECOs), and implements approved EMPs for coastal infrastructure projects. c) Whether coastal public property, the coastal protection zone or coastal access land will be affected, and if so, the extent to which the proposed development or activity is consistent with the purpose for establishing and protecting those areas: The activity will occur within the Estuarine Functional Zone, portions of the activity could possibly intersect with CPP, CPZ or coastal access land however, the activity is consistent with CPP as it involves maintenance/upgrade of essential public infrastructure (sewage reticulation) that supports public health, safety, and environmental integrity. No private appropriation or loss of public access is proposed. The development is conditionally consistent with the CPZ purpose. The activity is linear and underground, with no above ground permanent structures. Once rehabilitated, it will not compromise the ecological or protective functions of the CPZ. Mitigation through strict EMP controls will ensure long-term alignment with CPZ objectives. The activity is consistent with the purpose of ensuring public access to the coast. Temporary restrictions will be managed via signage and reinstatement post-construction. No permanent loss of access is anticipated. d) The estuarine management plans, coastal management programmes, coastal management lines and coastal management objectives applicable in the area: Estuaries are recognised as particularly sensitive and dynamic ecosystems and the National Environmental Management: Integrated Coastal Management Act (No. 24 of 2008, as amended by Act 36 of 2014) (ICMA), via the prescriptions of the South African National Estuarine Management Protocol (the Protocol), require Estuary Management Plans (EMPs) to be prepared for estuaries in order to create informed platforms for efficient and coordinated estuarine management. To this end, the Great Brak River EMP was compiled in 2018 (DEADP, 2018) and provides a detailed situation assessment of the estuary as well as management objects aimed at achieving an agreed upon vision for the estuary which is as follows: “The Great Brak River estuary is managed in a transparent, accountable and cooperative manner to ensure an appropriate balance between biodiversity conservation, recreational use, human safety and development, now and in the future.” e) The socio-economic impact of the activity: The socio-economic aspects are known and not complicated, the proposal is for the upgrading of a sewerage pipeline in Grootbrak Rivier, this will improve public health and hygiene, support continuous tourism-based income, create temporary employment opportunities during the construction process, and increase service infrastructure reliability and service delivery. Please also refer to Section G8 for a detailed review of the socio economic impact of the proposed development.	

g) The likely impact of coastal environmental processes on the proposed activity:

The proposed sewerage pipeline will not be significantly affected by coastal environmental processes. While the Groot Brak Estuary is influenced by tidal fluctuations, flooding, and sediment movement, the pipeline follows an existing disturbed corridor. Through appropriate engineering design, and erosion-control measures, the infrastructure will remain resilient to coastal dynamics, ensuring long-term functionality and environmental protection in accordance with the ICMA's objectives.

h) Whether the development or activity:

i. Is situated within coastal public property and is inconsistent with the objective of conserving and enhancing coastal public property for the benefit of current and future generations:

The activity is consistent with CPP as it involves maintenance/upgrade of essential public infrastructure (sewage reticulation) that supports public health, safety, and environmental integrity. No private appropriation or loss of public access is proposed.

ii. Is situated within the coastal protection zone and is inconsistent with the purpose for which a coastal protection zone is established as set out in section 17:

The development is conditionally consistent with the CPZ purpose. The activity is linear and underground, with no above ground permanent structures. Once rehabilitated, it will not compromise the ecological or protective functions of the CPZ. Mitigation through strict EMPr controls will ensure long-term alignment with CPZ objectives.

iii. Is situated within coastal access land and is inconsistent with the purpose for which coastal access land is designated as set out in section 18:

The proposed sewerage pipeline is not situated within any formally designated Coastal Access Land as defined in Section 18A of the ICMA. The activity will not impede or alter public access to the coast and is consistent with the purpose of such land, namely to promote safe, equitable, and environmentally sustainable access to coastal public property. On the contrary, the upgrade will enhance the environmental quality and public health of the Groot Brak estuarine area, thereby supporting the intent of Section 18A of the ICMA.

iv. Is likely to cause irreversible or long-lasting adverse effects to any aspect of the coastal environment that cannot satisfactorily be mitigated:

As per the Estuarine Impact Assessment Conclusion: The majority of the upgrades to the sewerage pipeline will occur in transformed sections of the EFZ (Zone A, B, C and E) and no estuarine habitat will be directly disturbed in these zones. Where the pipeline does traverse estuarine habitat (Zone D), it does so within an existing servitude. Impacts to estuarine wetland habitat can however be mitigated to a low or negligible significance of impact and it is recommended that authorisation for the upgrade is granted.

v. Is likely to be significantly damaged or prejudiced by dynamic coastal processes:

The proposed sewerage pipeline will not be significantly affected by coastal environmental processes. While the Groot Brak Estuary is influenced by tidal fluctuations, flooding, and sediment movement, the pipeline follows an existing disturbed corridor. Through appropriate engineering design, and erosion-control measures, the infrastructure will remain resilient to coastal dynamics, ensuring long-term functionality and environmental protection in accordance with the ICMA's objectives.

vi. Would substantially prejudice the achievement of any coastal management objective:

The proposal does not substantially prejudice the achievement of any coastal management objective.

vii. Would be contrary to the interests of the whole community:

The proposal is for the upgrade of sewerage infrastructure for the greater Grootbrak Rivier community and therefore would not be in contrary to the interests of the whole community.

i) Whether the very nature of the proposed activity or development requires it to be located within coastal public property, the coastal protection zone or coastal access land:

The nature of the proposed sewerage pipeline upgrade does not require location within coastal public property or coastal access land, as it is positioned landward of the high-water mark and outside designated public access corridors. A limited section of the alignment falls within the Coastal Protection Zone due to its proximity to the Groot Brak estuary; however, this location is operationally necessary to service the existing urban area. The activity is consistent with the objectives of the ICMA, as it replaces ageing municipal infrastructure, reduces pollution risk, and enhances the protection and functioning of the coastal environment.

j) Whether the proposed activity or development will provide important services to the public when using coastal public property, the coastal protection zone, coastal access land or a coastal protected area:

The activity is consistent with CPP as it involves maintenance/upgrade of essential public infrastructure (sewage reticulation) that supports public health, safety, and environmental integrity. No private appropriation or loss of public access is proposed.

3.4. Explain how estuary management plans (if applicable) has influenced the proposed development.

Estuaries are recognised as particularly sensitive and dynamic ecosystems and the National Environmental Management: Integrated Coastal Management Act (No. 24 of 2008, as amended by Act 36 of 2014) (ICMA), via the prescriptions of the South African National Estuarine Management Protocol (the Protocol), require Estuary Management Plans (EMPs) to be prepared for estuaries in order to create informed platforms for efficient and coordinated estuarine management. To this end, the Great Brak River EMP was compiled in 2018 (DEADP, 2018) and provides a detailed situation assessment of the estuary as well as management objects aimed at achieving an agreed upon vision for the estuary which is as follows:

"The Great Brak River estuary is managed in a transparent, accountable and cooperative manner to ensure an appropriate balance between biodiversity conservation, recreational use, human safety and development, now and in the future."

Specific management objectives highlighted in the EMP that are relevant to the proposed development include are listed in Table 10. The primary objective of the sewer line upgrade will be to increase the capacity of the pipeline which is crucial to avoiding blockages and leaks associated with increased sewage flows as the town of Great Brak expands. In this respect, the project is aligned to many of the management objectives of the EMP – particularly with respect to improving water quality in the estuary.

Table 10: Management objectives included in the Estuarine Management Plan (EMP) for the Great Brak Estuary (objectives highlighted in bold are relevant to the proposed sewage line upgrade).

Description	Management Objectives
1. Conservation of estuarine biodiversity	• Zonation plan for the estuary approved and implemented. • Great Brak River EMP integrated within local, district and provincial level planning documents (IDPs and SDFs). • Alien vegetation clearing and monitoring operations in place. • Future development on the estuary is constrained to ensure that it does not compromise estuary health, ecosystem functioning and/or sensitive species (e.g. no development in the 1:50 year flood line). • Harvesting of living marine resources (fish and bait) on the estuary remains
2. Restoration of estuary health	• Freshwater environmental reserve for the Great Brak River estuary implemented; revised dam operating rules for the Wolwedans are in force and respected.

	- Quantity and quality of freshwater reaching the estuary adequate to restore and maintain estuary health. - Sewage and storm water entering the estuary monitored and controlled
3. Effective and efficient mouth management	- Mouth Management Plan (MMP) accepted and signed off by all relevant authorities (DWS, Disaster Management, Weather SA, Eden and Mossel Bay Municipalities). - Beaching protocols are implemented in accordance with the accepted Mouth Management Plan & approved Maintenance Management Plan (MMP).
4. Water quality management	- Water quality samples collected and analysed in accordance with EMP requirements. - Bacteriological (Faecal coliforms, E. coli and Enterococci) and physico-chemical parameters (nitrate, nitrite, ammonia, phosphorus, silica, suspended sediment, toxic substances) from water quality samples taken in the estuary.
5. Visitor management	- Informative and educational signage erected at key points access points that highlights the conservation importance and value of the Great Brak River estuary. - Visitors are sensitive to and aware of activities affecting health and functioning of the estuary, and management regulations governing use of the estuary. - Quality and quantity of visitor facilities (ablutions, parking, etc.) sufficient to meet visitor expectations and requirements.
6. Development planning	Future development on the estuary is constrained to ensure that it does not compromise the existing sense of place, conservation value and/or cultural heritage resources associated with the Great Brak River estuary
7. Harmonious and effective Governance	- Great Brak River Estuary Advisory Forum convened and meets regularly. - Manager for the Great Brak River estuary appointed and capacitated - Arrangements for co-operative governance of the Great Brak River estuary defined and agreed to by all participating agencies. - Finance required for implementation of the Great Brak River estuary EMP secured and available. - Adequate capacity and resources available for implementation of the EMP amongst participating agencies
8. Enhanced public awareness and appreciation for the Great Brak River estuary	- Functional and effective stakeholder communication, education and awareness programmes are in place. - Informative and educational signage erected at key access points that highlights the conservation importance and value of the Great Brak River estuary - Great Brak River estuary recognised as an important local ecotourism destination.
9. Research and monitoring	Adequate research and monitoring is being conducted that allows for quantification of utilisation patterns, changes in abiotic and biotic health, and benefits accruing to local communities and national economy.
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.
Site specific impacts: While the entire pipeline route is mapped within the EFZ, long sections of the route run through urbanised, transformed habitat. Five distinct zones have been identified (Figure 19).	

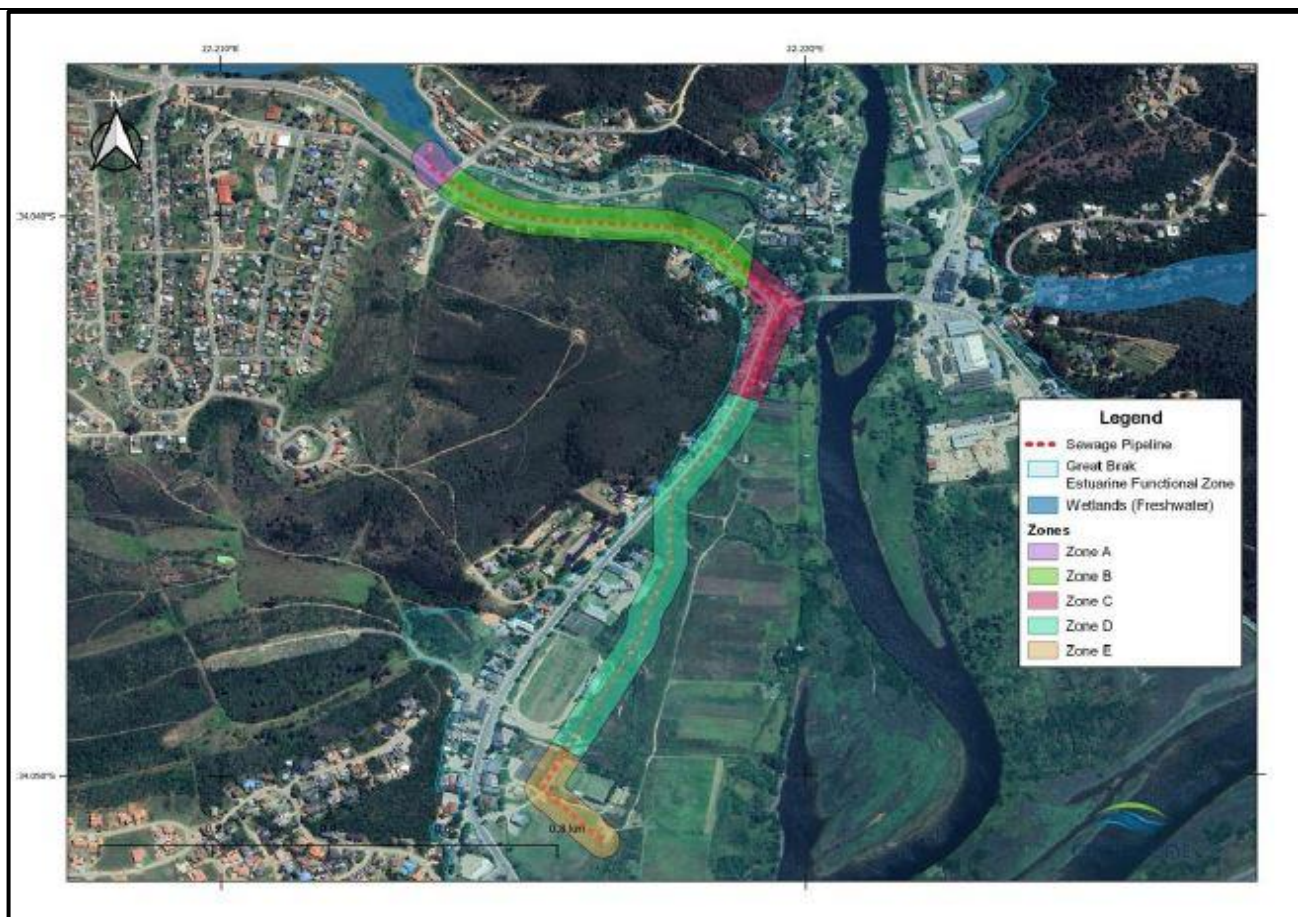


Figure 19: Habitat zones identified along the route of the proposed sewage pipeline upgrade.

Each of the zones is characterised as follows:

- Zone A:** The upper-most manhole linked to the proposed pipeline upgrade is located adjacent to a channel that extends from a large *Phragmites australis* dominated unchannelled valley-bottom wetland (Figure 8). Other prominent species include *Nidorella ivifolia* and *Cyperus textilis*. The channel is narrow and receives stormwater input from the surrounding area. The channel drains water from the wetland and has been diverted from its original course, which used to run closer to Amy Searle Street (see Section 5.1). This wetland falls outside of the EFZ and is considered as freshwater habitat (not estuarine). **(Please note that this section does not form part of this application and is therefore not applicable.)**
- Zone B:** The upper section of the pipeline (running adjacent to Amy Searle Street) runs through a grassed public open space area (Figure 9). Open water estuarine habitat has been transformed into a concrete-lined canal. The pipeline route along this section runs immediately beneath the sidewalk and does not traverse through any natural estuarine habitat. The closest distance to the canal is approximately 20 m. Several stormwater channels drain stormwater from Amy Searle Street down towards the canal. The canal has undergone many modifications in the past and has been diverted from its natural course (see Section 5.1). There is a patch of estuarine wetland vegetation that extends away from the channel towards Amy Searle Street. This is a remnant of the historical channel that used to run closer to Amy Searle Street (see Section 5.1). The wetland area is dominated by *P. australis* reedbeds but also includes *C. textilis* and *N. ivifolia*. There are clear signs of historical excavation within the wetland as was by vegetated mounds of soil around the perimeter (adjacent to Amy Searle Street). These mounds have been invaded by alien tree species – most notably *Melia azedarach* (Syringa). **(Please note that this section does not form part of this application and is therefore not applicable.)**

- **Zone C:** This section of the pipeline follows Long Street and runs immediately adjacent to the road and sidewalk. The pipeline runs through a transformed section of the EFZ and does not run through or adjacent to any natural estuarine habitat.
- **Zone D:** The pipeline route passes through natural, estuarine habitat located immediately adjacent to Long Street and eventually deviates from Long Street and passes through estuarine habitat, characterised by stands of *Phragmites australis* and patches of salt marsh vegetation (Figure 10). The habitat is supratidal and lies above the level of the highest high tide. Several stormwater channels that divert stormwater off of Long Street intersect with the pipeline route. While, the pipeline passes along an existing, disturbed servitude, the habitat immediately adjacent to the servitude is considered to be sensitive. This zone largely coincides with mapped aquatic CBA1 and CBA2 habitat (Figure 5).
- **Zone E:** The final section of the pipeline passes through the Great Brak municipal sport grounds complex where any former natural estuarine habitat has once again been transformed (roads, parking areas and sports fields) - Figure 11.

Sensitivity

Habitat zones (as described above) were assigned sensitivity ratings based on the proximity of the pipeline to estuarine habitat (Figure 20):

- **Low sensitivity (Zone C and E):** These zones are located outside of natural estuarine habitat and are unlikely to have any impact on aquatic biodiversity.
- **Medium sensitivity (Zone A and B):** These zones are located outside of natural freshwater and estuarine habitat but are in close enough proximity to warrant precautions that prevent impacts – particularly during the construction phase. **(Please note that this section does not form part of this application and is therefore not applicable.)**
- **High Sensitivity (Zone D):** This zone traverses through or runs in very close proximity to natural estuarine habitat. Precautions must be taken to minimise impacts to natural estuarine habitat during the construction and operational phase.

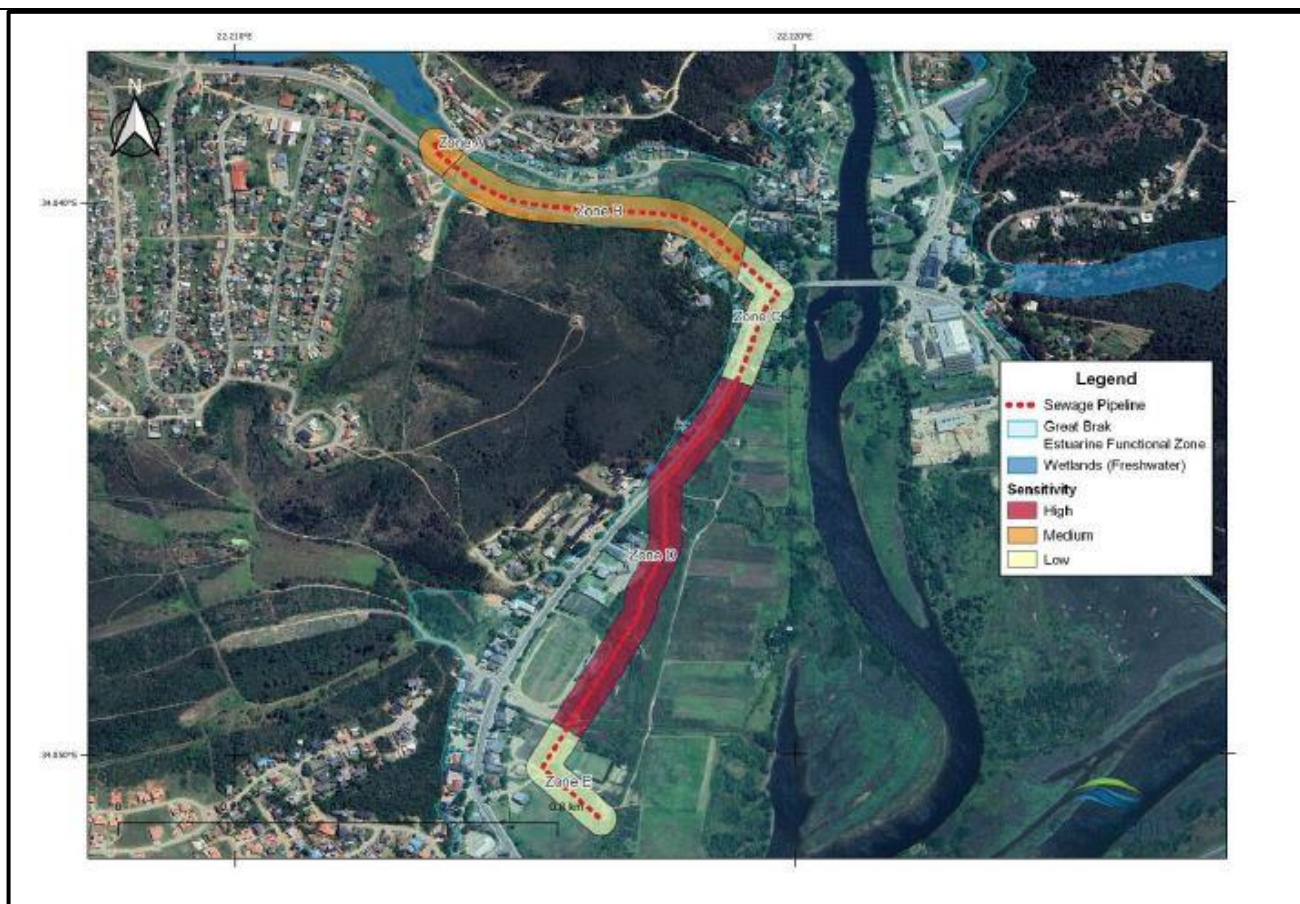


Figure 20: Sensitivity of zones.

Conclusion of specialist:

The majority of the upgrades to the sewage pipeline will occur in transformed sections of the EFZ (Zone A, B, C and E) and no estuarine habitat will be directly disturbed in these zones. Where the pipeline does traverse estuarine habitat (Zone D), it does so within an existing servitude. Impacts to estuarine wetland habitat can however be mitigated to a low or negligible significance of impact and it is recommended that authorisation for the upgrade is granted.

Mitigation measures

In response to the potential impacts of the proposed development, the specialist has recommended the following mitigation measures:

Layout and Design Phase

- Air valves along sewer lines must be elevated above the 1:100-year flood line
- Sewer manhole covers should not be made of metal because of the risk of theft.
- Manholes must be designed to be watertight to prevent environmental contamination from leaking sewage and to avoid ingress of surface water during rainfall and flood events. Watertight manholes achieve this seal using components like gaskets on the manhole cover, proper joint sealing between sections, and leak-resistant pipe-to-manhole connections, which are essential for system integrity and cost efficiency.

Construction Phase

- An Environmental Control Officer (ECO) must be appointed for the duration of the construction phase to monitor and report back on compliance with conditions of the environmental authorisation.
- Consult weather forecasts daily and weekly. Do not work during rainfall and minimise the storage of mobile materials in low-lying areas. Plan the construction area as if it could be inundated with floodwaters in the event of a significant rainfall event.
- Construction access for the pipeline through Zone D should utilise existing access points from Long Street. No new roads should be necessary.

- The width of the working area through Zone D must be as narrow as possible and must be clearly demarcated. Estuarine habitat outside of this demarcated area must be considered as No-Go areas.
- Revegetation of the pipeline through Zone D must be actively encouraged. The route is currently well covered by indigenous vegetation (e.g. sedges, *P. australis*, *Stenotaphrum secundatum* etc.). It is recommended that when trenching, a top layer of vegetation in association with 20-30 cm of soil should be removed and set aside for replanting or covering the filled in trench.
- Open trenching for sewer lines should be done in as short a stretch as possible and backfilled with material as soon as possible to reduce the likelihood of material loss in the event of flooding
- Keep a skip on site so that any waste materials can be conveniently discarded and removed. This includes small amounts of dirty water, such as that used for mixing concrete.
- Equipment and materials lay-down areas should be located away from estuarine habitat and stormwater channels leading into the estuary. Minimise the storage of loose materials in case of a flood event that could wash them into the estuary.
- Post-construction site clean-up must be completed to ensure the entire site footprint and surrounding area has been cleared of litter and any waste materials associated with construction. The ECO should be informed of the construction close-out and complete an inspection to ensure this measure has been implemented.
- The pipeline route through Zone D must be routinely inspected for the establishment of alien invasive plant species. This must be done at a high frequency following construction (i.e. monthly) and can be reduced once natural vegetation along the pipeline has recovered. These must be controlled by hand. No aerial application of herbicides is permitted. Herbicides may only be applied to cut-stumps and must be registered for use on the target plant species.

Operational Phase

- When blockages to sewerage infrastructure within the EFZ occur, the maintenance team should ensure a honey-sucker is on standby to mop up any spills or overflows for removal and disposal at the Wastewater Treatment Works.
- Any serious sewage spills that result in large quantities of sewage leaking from a pump station or manhole must be contained in a temporary coffer dam which can be constructed using sandbags for the walls and plastic sheeting as a base. From here, honey-suckers can collect sewage for removal.
- Any water-tight seals around manholes, joints or other access points that must be broken for maintenance should be replaced thereafter to ensure the mitigation measures to prevent water ingress or sewage leakage are maintained under flood scenarios.
- Keep sewer lines clear of dense vegetation to facilitate access and reduce the risk of roots cracking sewer lines.
- All of the mitigation measures provided for the construction phase are applicable to maintenance work where applicable.

4. Biodiversity

4.1.	Were specialist studies conducted?	YES	NO
4.2.	Provide the name and/or company who conducted the specialist studies.		
Advanced Environmental Corporation – JA van der Walt			
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.		
The Environmental Screening Tool Report: The environmental screening tool report indicates the sensitivity of the plant theme across the proposed development and lists threatened and sensitive plant species that could potentially occur within or near the proposed development footprint. CapeFarmMapper 3: The following spatial data were obtained from CapeFarmMapper 3 (CFM 3). CMF 3 is GIS software provided by the Western Cape Department of Agriculture, available at https://gis.elsenburg.com/apps/cfm/. • Vegetation units • Vegetation unit threat status			

- Spatial planning data: Critical Biodiversity Areas, Ecological Support Areas.

iNaturalist: iNaturalist is a crowdsourced species identification system and an organism occurrence recording tool. Sightings are graded, and only research-grade sighting is used in specialist assessments.

Google Earth: Google Earth is a web and computer program created by Google that renders a 3D representation of Earth based primarily on satellite imagery but also on street-level view. This imagery is useful when historical aerial imagery is needed of a proposed development footprint. It also gives a good perspective of the level of transformation before a field assessment is undertaken.

Other sources of data: Additional data were collected from a range of pertinent sources, including Mucina & Rutherford (2006), the National Vegetation Map (2018), and relevant biodiversity plans (Pool-Stanvliet 2017, SANBI 2021).

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.

Critical Biodiversity Areas (CBAs) are areas that must be safeguarded in their natural or near-natural state because they are essential for conserving biodiversity and maintaining ecosystem functioning. The spatial planning map for Groot Brakrivier (Figure 21) indicates that the proposed development footprint does not cross over any terrestrial CBA. The footprint does intersect with CBA Wetland and CBA Estuary near Lang Street. Figure 22 provides a zoomed-in version of Figure 21 to show more detail on the CBA Wetland demarcation. No Ecological Support Areas (ESAs) are mapped near the proposed development footprint. ESAs that are not essential for meeting biodiversity targets but play an important role in supporting the functioning of protected areas or critical biodiversity areas are often vital for delivering ecosystem services. The 2023 Western Cape Biodiversity Spatial Plan (WC BSP) was formally adopted into law on the 13th of December 2024 (Gazette Extraordinary 9017) in alignment with the Western Cape Biodiversity Act (No. 6 of 2021). This marks the replacement of the 2017 WC BSP with the 2023 WC BSP.

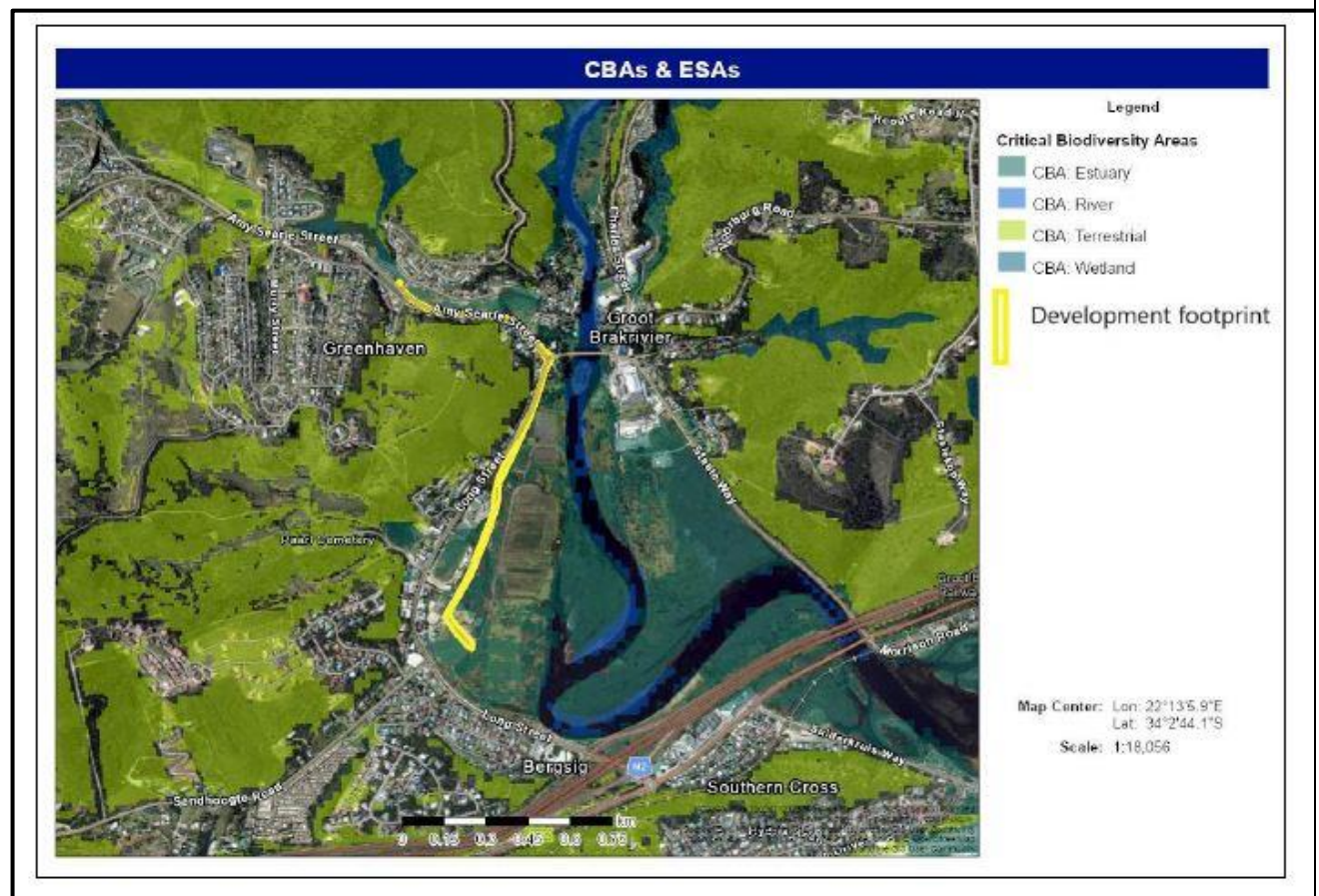


Figure 21: Critical Biodiversity Areas and Ecological Support Areas.



Figure 22: Critical Biodiversity Areas and Ecological Support Areas.

The Biodiversity Spatial Plan (2017) for the Western Cape provides reasons for the inclusion of areas into CBAs. These reasons for the CBAs at the proposed development footprint are summarized in Table 11.

Table 11: Reasons for the inclusion of CBAs at the proposed development footprint.

Summary 1:	Climate adaptation corridor (14.28), Ecological processes (8.82), Estuary (14.29), River Type (3.21), SA Vegetation Type (2.32), Threatened SA Vegetation Type (8.13), Threatened Vertebrate (11.4), Water resource protection (7.69)
Feature 1:	Bontebok Extended Distribution Range
Feature 2:	Cape Coastal Lagoons (LT)
Feature 3:	Climate adaptation corridor
Feature 4:	FEPA River Corridor
Feature 5:	Groot Brak Dune Strandveld (EN)
Feature 6:	Groot Brak Estuary
Feature 7:	Southern Coastal Belt Permanent Lowland River
Feature 8:	Watercourse protection- Southern Coastal Belt

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.

Please refer to table 12 below from the Terrestrial Biodiversity Site Verification and Compliance Statement Report (Appendix G2):

Table 12: Critical Biodiversity Areas Reason Verification:

Reasons for the CBA status within the proposed development footprint	Comment on the reason
Bontebok Extended Distribution Range	There are no Bontebok habitat within the proposed development footprint.
Cape Coastal Lagoons (LT)	The proposed development will have no impact.
Climate adaptation corridor	The linear activity will temporarily alter the already transformed environment, but the area should return to its current state within two years.
FEPA River Corridor	The linear activity will temporarily alter the already transformed environment, but the area should return to its current state within two years.
Groot Brak Dune Strandveld (EN)	Only a few elements of this vegetation unit exist, as most have been almost completely transformed
Groot Brak Estuary	The activity will not impact the Groot Brak Estuary.
Southern Coastal Belt Permanent Lowland River	The activity will not impact the Groot Brak River.
Watercourse protection- Southern Coastal Belt	The activity will temporarily impact the artificial drainage lines that cross the proposed development footprint.

Terrestrial Biodiversity (Terrestrial Biodiversity Site Verification and Compliance Statement Report – Appendix G2):

The site sensitivity is verified to be Low from a terrestrial biodiversity perspective and not Very High as rated in the Environmental Screening Tool. This finding is based on:

- No functional plant communities of the original vegetation unit (Groot Brak Dune Strandveld) remain in the proposed development footprint. The other vegetation unit listed in the environmental screening tool report, Garden Route Granite Fynbos, is not present in the proposed development footprint.
- The Critical Biodiversity Areas that are located within the proposed linear development footprint area are mostly transformed and would also return to their current state within two years.

The specialist therefore recommends that the development proceed as planned from a terrestrial biodiversity perspective if the mitigation measures in Section 9 of the Terrestrial Biodiversity Site Verification and Compliance Statement Report (Appendix G2) are captured in the Environmental Management Plan Report.

Plant Species (Plant Species Site Verification and Compliance Statement Report – Appendix G3):

The specialist identified 43 plant species from 27 families during a two-day survey of the proposed development site (Please refer to the Plant Species Site Verification and Compliance Statement Report – Appendix G3). Due to prior transformation, overall species diversity was low as anticipated. No threatened plant species were recorded within the proposed development footprint. None of the 15 threatened and sensitive plant species listed in the Environmental Screening Tool Report was recorded within the proposed development footprint.

The site sensitivity is verified to be Low from a plant species perspective and not Medium as rated in the Environmental Screening Tool. This finding is based on:

- No plant species of conservation concern is located within the proposed development footprint.
- The severe state of transformation of the proposed development footprint.
- The high percentage of alien vegetation located within the proposed development footprint.

The specialist therefore recommends that the development proceed as planned from a plant species perspective if the mitigation measures in Section 9 of the Plant Species Site Verification and Compliance Statement Report (Appendix G3) are captured in the Environmental Management Program.

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.

There are no formally protected areas near the proposed development footprint. The proposed development footprint is also not in an area that forms part of a protected area expansion strategy.

4.7. Explain how the presence of fauna on and adjacent to the proposed development has influenced your proposed development.

The natural vegetation (Groot Brak Dune Strandveld) has been historically transformed for urban development across most of the proposed site. The area from the Amy Searle / Long Street traffic circle to the cricket field sewerage pump station contains more animal habitat than the other sections, and the animal species listed in Table 13 were observed during the field survey. None of the observed animal species is threatened. The specialist also did not observe any of the threatened or sensitive species listed in the environmental screening tool report, and due to the lack of suitable habitat, it is highly unlikely that any of those species will ever occur on the proposed development footprint.

Table 13: Animal species observations during the field survey.

Animal Group	Species	Common name	Red List Status	Observation type
Aves	<i>Vanellus armatus</i>	Blacksmith Plover	LC	sighting
Aves	<i>Vanellus coronatus ssp. coronatus</i>	Cape Crowned Lapwing	LC	sighting
Aves	<i>Ardea melanocephala</i>	Black-headed Heron	LC	sighting
Amphibia	<i>Strongylopus grayii</i>	Clicking Stream Frog	LC	sighting
Mammalia	<i>Potamochoerus larvatus</i>	Bushpig	LC	spoor
Mammalia	<i>Raphicerus melanotis</i>	Cape Grysbok	LC	spoor

The specialist also observed numerous bird species that flew over the proposed development footprint, but none of these species were threatened. The proposed development also would return to its current state within two years after construction. The proposed development footprint also does not contain the Bontebok habitat. Bontebok habitat (extended range) was listed as one of the reasons for the CBA status of a section of the proposed development footprint.

The site sensitivity is verified to be Low from an animal species perspective and not High as rated in the Environmental Screening Tool. This finding is based on:

- The proposed development footprint is highly transformed with very limited habitat for animal species.
- The threatened animal species listed in the environmental screening tool report do not occur on or near the proposed development footprint.

- No threatened animal species were observed during the field survey.

The specialist therefore recommends that the development proceed as planned from an animal species perspective if the mitigation measures in Section 9 of the Animal Species Sensitivity Verification and Compliance Statement Report (Appendix G4) are captured in the EMPr.

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.		
	Jonathan Kaplan		
6.3.	Explain how areas that contain sensitive heritage resources have influenced the proposed development.		
	A Notice of Intent to Develop was submitted to Heritage Western Cape, the matter was discussed at the Heritage Officers Meeting held on 13 October 2025 and it was determined that there is no reason to believe that the proposed upgrading (i. e. installation of a new 300mm bulk sewerage pipeline) from Amy Searle Street/Greenhaven to the existing Cricket Field Sewerage Pumpstation on Erf 83, Along Long Street and Amy Searle Street, Great Brak Street, no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required. HWC Chance Finds and Accidental Finds Procedures to be included in the EMPr and Environmental Authorization. However, should any heritage resources, including evidence of graves and human burials, archaeological material and paleontological material be discovered during the execution of the activities above, all works must be stopped immediately, and Heritage Western Cape must be notified without delay.		

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.	
A Notice of Intent to Develop was submitted to Heritage Western Cape, the matter was discussed at the Heritage Officers Meeting held on 13 October 2025 and it was determined that there is no reason to believe that the proposed upgrading (i. e. installation of a new 300mm bulk sewerage pipeline) from Amy Searle Street/Greenhaven to the existing Cricket Field Sewerage Pumpstation on Erf 83, Along Long Street and Amy Searle Street, Great Brak Street, no further action under Section 38 of the National Heritage Resources Act (Act 25 of 1999) is required. HWC Chance Finds and Accidental Finds Procedures to be included in the EMPr and Environmental Authorization. However, should any heritage resources, including evidence of graves and human burials, archaeological material and paleontological material be discovered during the execution of the activities above, all works must be stopped immediately, and Heritage Western Cape must be notified without delay.	

8. Socio/Economic Aspects

8.1.	Describe the existing social and economic characteristics of the community in the vicinity of the proposed site.
<u>Source: Western Cape Government: #Knowyourmunicipality: 2023 Socio Economic Profile: Mossel Bay Municipality and Western Cape Government: 2024-25 Municipal Economic Review and Outlook: Garden Route District.</u>	

In the context of the Census 2022 findings, Mossel Bay Municipality's population amounted to 140 075 individuals in 2022, positioning it as the second largest population in the Garden Route after George (294 929). Projections indicate that this number is expected to grow to 147 220 people by 2027, reflecting an average annual growth rate of 1.0 percent during this timeframe.

The available data suggests that in the Mossel Bay municipal area, there is a lower representation of males compared to females, with a distribution of 48.3 percent for males and 51.7 percent for females. The sex ratio in Mossel Bay has exhibited a gradual downward trend in the years leading up to 2022, according to census 2022 results. This phenomenon may be attributed to diverse factors, including a demographic changes, health and environmental factors, etc.

In terms of age representation, the largest share of the population, consist of the working age population (15 - 64 years) at 66.7 per cent, followed by the young children (0-14 years) aged cohort at 17.9 per cent and the elderly 15.4 per cent. The significant working-age population can contribute to higher economic productivity are more engaged in the labour force, leading to increased output and economic growth.

Within the Mossel Bay municipal area encompassing 52 985 households, 92.5 percent had access to formal housing, surpassing the Garden Route District's mean of 89 percent. Mossel Bay exhibited a diminished share of informal dwellings, constituting 5.8 percent, in contrast to the district-wide average of 9.6 percent for informal housing. This discrepancy in housing types implies distinct socio-economic dynamics within Mossel Bay, potentially influencing various economic and social indicators in comparison to the broader Garden Route District.

Service access levels within the Mossel Bay municipal area exceeded the access to formal housing in certain cases. Approximately 90.2 per cent of households had access to piped water either inside the dwelling/yard or through communal/neighbour's taps. 97.1 per cent had access to flush toilets or chemical toilets, and 98.2 per cent had access to electricity (including generators) for lighting. Additionally, local authorities removed refuse at least weekly for 92.5 per cent of households in the area. These disparities in housing and service access have socio-economic implications, impacting the living conditions and quality of life for the local population.

Mossel Bay is the second-largest economy in the GRD, contributing R8.1 billion to GDP in 2023, which accounts for 17.5 per cent of the region's total economic output. The town also plays a key role in employment, providing 15.9 per cent of the District's jobs, amounting to 35 974 positions. The employment profile in Mossel Bay is notable for its higher share of skilled and semi-skilled workers, with 36.0 per cent of jobs classified as skilled, 40.0 per cent semi-skilled, and 24.0 per cent low-skilled. The economy of Mossel Bay is diverse and well-balanced, with substantial contributions from both the tertiary and secondary sectors. The largest contributor to the local GDP is the finance, insurance, real estate, and business services sector, which accounts for 38.6 per cent. This is followed by wholesale and retail trade, catering, and accommodation (13.3 per cent), and transport, storage, and communication (9.9 per cent). Together, these sectors form the core of Mossel Bay's service economy. The secondary sector, though smaller, still plays a critical role, with manufacturing contributing 12.7 per cent and construction adding another 2.9 per cent to the local GDP. The primary sector, including agriculture, forestry, and fishing, accounts for 4.8 per cent of the economy, though it remains an important part of the region, particularly in rural areas. Mossel Bay's evolving economy is increasingly characterised by a shift toward skilled employment, particularly in sectors such as finance, public administration, and natural gas extraction. This transition reflects the town's growing importance as a hub for business services and industrial activity in the GRD, marking its position as a vital economic centre in the region.

According to StatsSA.gov.za, the town of Grootbrak Rivier (located within the Mossel Bay Municipal area) has a population of 10,619 residents, 3148 household, with 73.6% of these having a flush toilet connected to a sewer line. The community surrounding the proposed site in Groot Brak Rivier is semi-urban, with a diverse population engaged primarily in the tourism, service, and municipal sectors. While the area is relatively well-serviced, aging infrastructure poses challenges to sustainable growth. The proposed sewerage pipeline upgrade will improve service reliability, protect public health, and support local socio-economic development within the existing urban area.

8.2.	Explain the socio-economic value/contribution of the proposed development.
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The proposed upgrades are expected to cost R 4.959 million. The upgrades will increase the pumping capacity and resilience of the greater sewerage network which will benefit the Grootbrak Rivier community as a whole. Local labour will be sourced for the construction phase. Municipal Tender rules apply.	
8.3.	Explain what social initiatives will be implemented by applicant to address the needs of the community and to uplift the area. This proposal is going to address the needs of the community because the pumping capacity and resilience of the greater sewerage network in Grootbrak Rivier will be improved, and the proposal will provide jobs to locals during the construction phase.
8.4.	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. Impacts will be temporary in nature and limited to the construction phase. Increasing the sewerage network capacity and resilience will decrease future sewerage spills and breakdowns.

SECTION H: ALTERNATIVES, METHODOLOGY AND ASSESSMENT OF ALTERNATIVES

1. Details of the alternatives identified and considered

1.1.	Property and site alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts. Provide a description of the preferred property and site alternative. The existing and preferred site spans across 7 properties and 2 street parcels: Erf 4808, Erf 4809, Erf 4807, RE/4812, Erf 770, Erf 733, Erf 83, Street Parcel RE/131 and Street Parcel RE/4893. The proposed site is situated towards the south of the town of Grootbrak Rivier, from the traffic circle at Amy Searle and Long Street, along Long Street to the cricket field sewerage pump station. As the proposal is for the upgrading of an existing sewerage pipeline, no property or site alternatives exist. Provide a description of any other property and site alternatives investigated. No property or site alternatives are being investigated. The proposal is for the upgrade of an existing sewerage pipeline. Provide a motivation for the preferred property and site alternative including the outcome of the site selection matrix. The sewerage pipeline has been at this site for many years and connects to the existing cricket field sewerage pump station. It will not make sense to move the whole site somewhere else, and this would require the construction of a new sewerage pump station as well. Provide a full description of the process followed to reach the preferred alternative within the site. Not Applicable. Provide a detailed motivation if no property and site alternatives were considered. The sewerage pipeline has been at this site for more many years and connects to the existing cricket field sewerage pump station. It will not make sense to move the whole site somewhere else, and this would require the construction of a new sewerage pump station as well. List the positive and negative impacts that the property and site alternatives will have on the environment. Not Applicable.
1.2.	Activity alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts. Provide a description of the preferred activity alternative. The proposed development entails the installation of a sewage pipeline from the pump station south east of Long Street to the connection point located towards the north along Amy Searl Street. The pipe to be installed has a diameter of 300mm and the pipeline route will be approximately 1100m. 17 manholes will be installed along the pipeline route, each manhole will have a development footprint of 1.5m².

Provide a description of any other activity alternatives investigated.	
No other activity has been investigated.	
Provide a motivation for the preferred activity alternative.	
Not Applicable.	
Provide a detailed motivation if no activity alternatives exist.	
The proposed development entails the installation of a sewage pipeline from the pump station south east of Long Street to the connection point located towards the north along Amy Searl Street. The pipe to be installed has a diameter of 300mm and the pipeline route will be approximately 1100m. 17 manholes will be installed along the pipeline route, each manhole will have a development footprint of 1.5m ² .	
No activity alternatives exist.	
List the positive and negative impacts that the activity alternatives will have on the environment.	
Not Applicable.	
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.	
Not Applicable.	
Provide a description of any other design or layout alternatives investigated.	
Not Applicable.	
Provide a motivation for the preferred design or layout alternative.	
Not Applicable.	
Provide a detailed motivation if no design or layout alternatives exist.	
Not Applicable.	
List the positive and negative impacts that the design alternatives will have on the environment.	
Not Applicable.	
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:	
Not Applicable to this proposal.	
Provide a description of any other technology alternatives investigated.	
Not Applicable to this proposal.	
Provide a motivation for the preferred technology alternative.	
Not Applicable to this proposal.	
Provide a detailed motivation if no alternatives exist.	
Not Applicable to this proposal.	
List the positive and negative impacts that the technology alternatives will have on the environment.	
Not Applicable to this proposal.	
1.5.	Operational alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.
Provide a description of the preferred operational alternative.	
Not Applicable to this proposal.	
Provide a description of any other operational alternatives investigated.	
Not Applicable to this proposal.	
Provide a motivation for the preferred operational alternative.	
Not Applicable to this proposal.	
Provide a detailed motivation if no alternatives exist.	
Not Applicable to this proposal.	
List the positive and negative impacts that the operational alternatives will have on the environment.	
Not Applicable to this proposal.	
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.	
Sewerage infrastructure must be maintained and periodically upgraded to ensure functionality and prevent breakdowns.	
1.7.	Provide and 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.
Not Applicable.	
1.8.	Provide a concluding statement indicating the preferred alternatives, including the preferred location of the activity.

The proposed development entails the installation of a sewage pipeline from the pump station south east of Long Street to the connection point located towards the north along Amy Searl Street. The pipe to be installed has a diameter of 300mm and the pipeline route will be approximately 1100m. 17 manholes will be installed along the pipeline route, each manhole will have a development footprint of 1.5m².

No site or activity alternatives exist as explained above.

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).

As the site traverses an estuary, the construction activities will be in the most sensitive part of the area. As such the goal of the No-Go area for this proposal will be to limit the movements within the proximity of the Estuarine Functional Zone to the absolute minimum. The contractor will therefore be offered a reasonable working corridor to ensure labourer safety however all areas on the estuary side outside of the working footprint will be considered the No-Go area. Existing access roads, disturbed areas, and areas that won't trigger listed activities are excluded from the no-go areas (i.e if the contractor comes to an agreement with nearby landowners to use disturbed areas for storage areas or site camps).

It is important to note that as per the Estuarine Assessment (Appendix G1) the width of the working area through Zone D (as indicated in Appendix G1) must be as narrow as possible and must be clearly demarcated. Estuarine habitat outside of this demarcated area must be considered as No-Go areas.

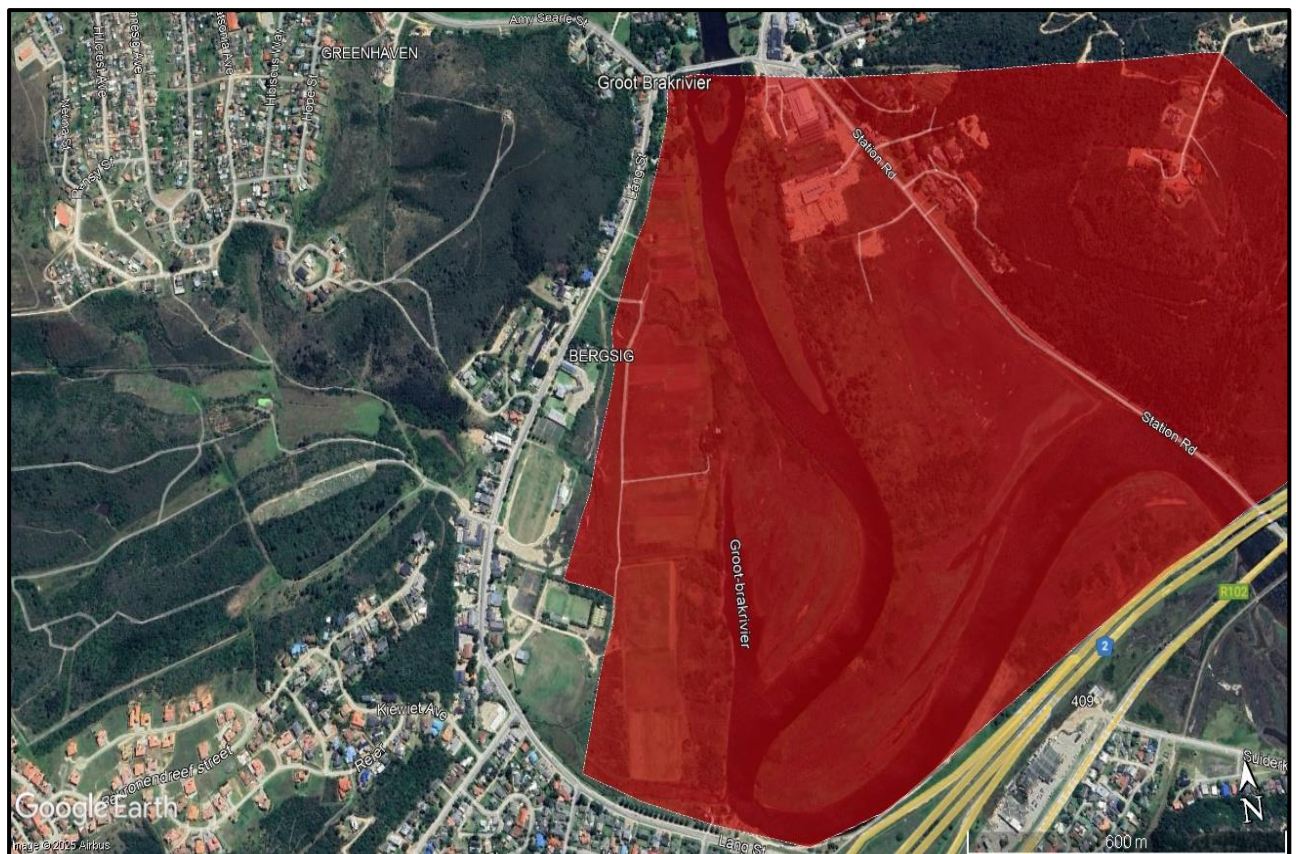


Figure 23: No-Go Map.

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.

The assessment criteria utilised in this environmental impact assessment is based on, and adapted from, the Guideline on Impact Significance, Integrated Environmental Management Information Series 5 (Department of Environmental Affairs and Tourism (DEAT), 2002) and the Guideline 5: Assessment of Alternatives and Impacts in Support of the Environmental Impact Assessment Regulations (DEAT, 2006).

Determination of Extent (Scale):

Site specific	On site or within 100 m of the site boundary, but not beyond the property boundaries.
Local	The impacted area includes the whole or a measurable portion of the site and property, but could affect the area surrounding the development, including the neighbouring properties and wider municipal area.
Regional	The impact would affect the broader region (e.g., neighbouring towns) beyond the boundaries of the adjacent properties.
National	The impact would affect the whole country (if applicable).

Determination of Duration:

Temporary	The impact will be limited to the construction phase.
Short term	The impact will either disappear with mitigation or will be mitigated through a natural process in a period shorter than 8 months after the completion of the construction phase.
Medium term	The impact will last up to the end of the construction phase, where after it will be entirely negated in a period shorter than 3 years after the completion of construction activities.
Long term	The impact will continue for the entire operational lifetime of the development but will be mitigated by direct human action or by natural processes thereafter.
Permanent	This is the only class of impact that will be non-transitory. Such impacts are regarded to be irreversible, irrespective of what mitigation is applied.

Determination of Probability:

Improbable	The possibility of the impact occurring is very low, due either to the circumstances, design or experience.
Probable	There is a possibility that the impact will occur to the extent that provisions must therefore be made.
Highly probable	It is most likely that the impacts will occur at some stage of the development. Plans must be drawn up to mitigate the activity before the activity commences.
Definite	The impact will take place regardless of any prevention plans.

Determination of Significance (without mitigation):

No significance	The impact is not substantial and does not require any mitigation action.
Low	The impact is of little importance but may require limited mitigation.
Medium	The impact is of sufficient importance and is therefore considered to have a negative impact. Mitigation is required to reduce the negative impacts to acceptable levels.
Medium-High	The impact is of high importance and is therefore considered to have a negative impact. Mitigation is required to manage the negative impacts to acceptable levels.

High	The impact is of great importance. Failure to mitigate, with the objective of reducing the impact to acceptable levels, could render the entire development option or entire project proposal unacceptable. Mitigation is therefore essential.
Very High	The impact is critical. Mitigation measures cannot reduce the impact to acceptable levels. As such the impact renders the proposal unacceptable.

Determination of Significance (with mitigation):

No significance	The impact will be mitigated to the point where it is regarded to be insubstantial.
Low	The impact will be mitigated to the point where it is of limited importance.
Medium	Notwithstanding the successful implementation of the mitigation measures, the impact will remain of significance. However, taken within the overall context of the project, such a persistent impact does not constitute a fatal flaw.
High	Mitigation of the impact is not possible on a cost-effective basis. The impact continues to be of great importance, and taken within the overall context of the project, is considered to be a fatal flaw in the project proposal.

Determination of Reversibility:

Completely Reversible	The impact is reversible with implementation of minor mitigation measures
Partly Reversible	The impact is partly reversible but more intense mitigation measures
Barely Reversible	The impact is unlikely to be reversed even with intense mitigation measures
Irreversible	The impact is irreversible, and no mitigation measures exist

Determination of Degree to which an Impact can be Mitigated:

Can be mitigated	The impact is reversible with implementation of minor mitigation measures
Can be partly mitigated	The impact is partly reversible but more intense mitigation measures
Can be barely mitigated	The impact is unlikely to be reversed even with intense mitigation measures
Not able to mitigate	The impact is irreversible, and no mitigation measures exist

Determination of Loss of Resources:

No loss of resource	The impact will not result in the loss of any resources
Marginal loss of resource	The impact will result in marginal loss of resources
Significant loss of resources	The impact will result in significant loss of resources
Complete loss of resources	The impact will result in a complete loss of all resources

Determination of Cumulative Impact:

Negligible	The impact would result in negligible to no cumulative effects
Low	The impact would result in insignificant cumulative effects
Medium	The impact would result in minor cumulative effects
High	The impact would result in significant cumulative effects

Determination of Consequence significance:

Negligible	The impact would result in negligible to no consequences
Low	The impact would result in insignificant consequences
Medium	The impact would result in minor consequences
High	The impact would result in significant consequences

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.

DESIGN / CONSTRUCTION PHASE:

Alternative:	Preferred Alternative	No-Go Alternative
Layout and Design Phase		
Estuarine Assessment Impact 1		
Potential impact and risk:	Sewer line design in the flood line (applicable to all zones): The entire pipeline route is located within the 1:50 and 1:100 year floodline. The primary concern around development of sewerage infrastructure in flood prone areas is prevention of the leakage of sewage during flood events which could pollute the wetland and estuary.	
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Local – Temporary	
Consequence of impact or risk:	None identified by the specialist.	
Probability of occurrence:	Probable	
Degree to which the impact may cause irreplaceable loss of resources:	Low	
Degree to which the impact can be reversed:	High	
Indirect impacts:	None identified by the specialist.	
Cumulative impact prior to mitigation:	Low (-)	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	
Degree to which the impact can be avoided:	None identified by the specialist.	
Degree to which the impact can be managed:	None identified by the specialist.	
Degree to which the impact can be mitigated:	Can be mitigated	
Proposed mitigation:	SEE BELOW	
Residual impacts:	None identified by the specialist.	
Cumulative impact post mitigation:	Low (-)	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	NO IMPACT

Mitigation Measures:

- Air valves along sewer lines must be elevated above the 1:100-year flood line.
- Sewer manhole covers should not be made of metal because of the risk of theft.
- Manholes must be designed to be watertight to prevent environmental contamination from leaking sewage and to avoid ingress of surface water during rainfall and flood events. Watertight manholes achieve this seal using components like gaskets on the manhole cover, proper joint sealing between sections, and leak-resistant pipe-to-manhole connections, which are essential for system integrity and cost efficiency.

Alternative:	Preferred Alternative	No-Go Alternative
Construction Phase		
Estuarine Assessment Impact 2		
Potential impact and risk:	Disturbance of estuarine and wetland habitat caused by construction activities: • Construction activities in Zone A, B and D will take place in, or adjacent to natural freshwater and estuarine habitat. These activities include clearing of vegetation, excavation of trenches, stockpiling of materials and mixing of cement (e.g. for construction of manholes). Care must therefore be taken to minimise disturbance and impact on adjacent habitat.	
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Site Specific – Short term	
Consequence of impact or risk:	None identified by the specialist.	
Probability of occurrence:	Highly Probable	
Degree to which the impact may cause irreplaceable loss of resources:	Low	
Degree to which the impact can be reversed:	High	
Indirect impacts:	None identified by the specialist.	
Cumulative impact prior to mitigation:	Low (-)	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	
Degree to which the impact can be avoided:	None identified by the specialist.	
Degree to which the impact can be managed:	None identified by the specialist.	
Degree to which the impact can be mitigated:	Can be mitigated.	
Proposed mitigation:	SEE BELOW	
Residual impacts:	None identified by the specialist.	
Cumulative impact post mitigation:	Very Low (-)	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very Low (-)	NO IMPACT

Mitigation Measures:

- An Environmental Control Officer (ECO) must be appointed for the duration of the construction phase to monitor and report back on compliance with conditions of the environmental authorisation.
- Consult weather forecasts daily and weekly. Do not work during rainfall and minimise the storage of mobile materials in low-lying areas. Plan the construction area as if it could be inundated with floodwaters in the event of a significant rainfall event.
- Construction access for the pipeline through Zone D should utilise existing access points from Long Street. No new roads should be necessary.
- The width of the working area through Zone D must be as narrow as possible and must be clearly demarcated. Estuarine habitat outside of this demarcated area must be considered as No-Go areas.
- Revegetation of the pipeline through Zone D must be actively encouraged. The route is currently well covered by indigenous vegetation (e.g. sedges, *P. australis*, *Stenotaphrum secundatum* etc.). It is recommended that when trenching, a top layer of vegetation in association with 20-30 cm of soil should be removed and set aside for replanting or covering the filled in trench.
- Open trenching for sewer lines should be done in as short a stretch as possible and backfilled with material as soon as possible to reduce the likelihood of material loss in the event of flooding.
- Keep a skip on site so that any waste materials can be conveniently discarded and removed. This includes small amounts of dirty water, such as that used for mixing concrete.
- Equipment and materials lay-down areas should be located away from estuarine habitat and stormwater channels leading into the estuary. Minimise the storage of loose materials in case of a flood event that could wash them into the estuary.
- Post-construction site clean-up must be completed to ensure the entire site footprint and surrounding area has been cleared of litter and any waste materials associated with construction. The ECO should be informed of the construction close-out and complete an inspection to ensure this measure has been implemented.
- The pipeline route through Zone D must be routinely inspected for the establishment of alien invasive plant species. This must be done at a high frequency following construction (i.e. monthly) and can be reduced once natural vegetation along the pipeline has recovered. These must be controlled by hand. No aerial application of herbicides is permitted. Herbicides may only be applied to cut-stumps and must be registered for use on the target plant species.

Alternative:	Preferred Alternative	No-Go Alternative
Construction Phase		
Socio-economic Impact 1		
Potential impact and risk:	Job creation: • Employment opportunities will be created during the construction phase of the project. • Approximately 100% of these opportunities will accrue to historically disadvantaged individuals from the surrounding communities.	
Nature of impact:	Positive	NO IMPACT
Extent and duration of impact:	Local – short term	
Consequence of impact or risk:	N/A	
Probability of occurrence:	Definite	
Degree to which the impact may cause irreplaceable loss of resources:	No loss	
Degree to which the impact can be reversed:	N/A	
Indirect impacts:	N/A	
Cumulative impact prior to mitigation:	Low (+)	
Significance rating of impact prior to mitigation	Low (+)	

(e.g. Low, Medium, Medium-High, High, or Very-High)		
Degree to which the impact can be avoided:	N/A	
Degree to which the impact can be managed:	N/A	
Degree to which the impact can be mitigated:	N/A	
Proposed mitigation:	SEE BELOW	
Residual impacts:	Negligible	
Cumulative impact post mitigation:	Low (+)	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (+)	NO IMPACT

Mitigation Measures:

No mitigation required for this positive benefit. However, preference should be given to previously disadvantaged individuals from the local community when appointing contractors/ workers. All construction employees/ contractors must be appointed according to the relevant BBEE and employment equity requirements of the Applicant.

OPERATIONAL PHASE:

Alternative:	Preferred Alternative	No-Go Alternative
Operational Phase		
Estuarine Assessment Impact 3		
Potential impact and risk:	Pollution of wetland and estuarine habitat caused by pipeline blockages: There is a high likelihood that occasional leaks will occur due to blockages or damaged sections of the pipeline. Standard operating procedures must be developed and implemented in order to detect, respond to and contain leaks when these do occur. The objective is to reduce the risk of pollution entering the estuary.	
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Local – Temporary	
Consequence of impact or risk:	None identified by the specialist.	
Probability of occurrence:	Highly Probable	
Degree to which the impact may cause irreplaceable loss of resources:	Low	
Degree to which the impact can be reversed:	High	
Indirect impacts:	None identified by the specialist.	
Cumulative impact prior to mitigation:	Low (-)	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	

Degree to which the impact can be avoided:	None identified by the specialist.	
Degree to which the impact can be managed:	None identified by the specialist.	
Degree to which the impact can be mitigated:	Can be mitigated	
Proposed mitigation:	SEE BELOW	
Residual impacts:	None identified by the specialist.	
Cumulative impact post mitigation:	Low (-)	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	NO IMPACT

Mitigation Measures:

- When blockages to sewerage infrastructure within the EFZ occur, the maintenance team should ensure a honey-sucker is on standby to mop up any spills or overflows for removal and disposal at the Wastewater Treatment Works.
- Any serious sewage spills that result in large quantities of sewage leaking from a pump station or manhole must be contained in a temporary coffer dam which can be constructed using sandbags for the walls and plastic sheeting as a base. From here, honey-suckers can collect sewage for removal.
- Any water-tight seals around manholes, joints or other access points that must be broken for maintenance should be replaced thereafter to ensure the mitigation measures to prevent water ingress or sewage leakage are maintained under flood scenarios.
- Keep sewer lines clear of dense vegetation to facilitate access and reduce the risk of roots cracking sewer lines.

Alternative:	Preferred Alternative	No-Go Alternative
PLANNING, DESIGN AND DEVELOPMENT PHASE		
Estuarine Assessment Impact 4		
Potential impact and risk:	Disturbance of wetland and estuarine habitat caused by maintenance on pipelines (Zone A, B and Zone D): • The operational phase primarily relates to maintenance and repairs required for the sewer lines within the EFZ. The proximity of the pipeline to estuarine habitat increases the risk that contractors appointed for maintenance could inadvertently create impacts to the estuary. Mitigation measures aim to reduce the risk of damage or disturbance to nearby estuarine or wetland habitat.	
Nature of impact:	Negative	NO IMPACT
Extent and duration of impact:	Site Specific – Short term	
Consequence of impact or risk:	None identified by the specialist.	
Probability of occurrence:	Probable	
Degree to which the impact may cause irreplaceable loss of resources:	Low	
Degree to which the impact can be reversed:	High	
Indirect impacts:	None identified by the specialist.	
Cumulative impact prior to mitigation:	Low (-)	

Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	
Degree to which the impact can be avoided:	None identified by the specialist.	
Degree to which the impact can be managed:	None identified by the specialist.	
Degree to which the impact can be mitigated:	Can be mitigated.	
Proposed mitigation:	SEE BELOW	
Residual impacts:	None identified by the specialist.	
Cumulative impact post mitigation:	Very Low (-)	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Very Low (-)	NO IMPACT

Mitigation Measures:

- All of the mitigation measures provided for the construction phase are applicable to maintenance work where applicable.

Alternative:	Preferred Alternative	No-Go Alternative
Operational Phase		
Socio-economic Impact 2		
Potential impact and risk:	Improve efficiency and reliability of the municipal wastewater network: • improve the efficiency, reliability, and environmental compliance of the municipal wastewater network, which directly benefits local residents, businesses, and public facilities through enhanced sanitation services and protection of water quality in the Groot Brak Estuary. This improvement reduces the risk of sewage leaks, odours, and contamination, contributing to a healthier and safer living environment.	
Nature of impact:	Positive	NO IMPACT
Extent and duration of impact:	Local – long term	
Consequence of impact or risk:	N/A	
Probability of occurrence:	Definite	
Degree to which the impact may cause irreplaceable loss of resources:	No loss	
Degree to which the impact can be reversed:	N/A	
Indirect impacts:	N/A	
Cumulative impact prior to mitigation:	Medium (+)	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (+)	
Degree to which the impact can be avoided:	N/A	

Degree to which the impact can be managed:	N/A	
Degree to which the impact can be mitigated:	N/A	
Proposed mitigation:	SEE BELOW	
Residual impacts:	Negligible	
Cumulative impact post mitigation:	Medium (+)	
Significance rating of impact after mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (+)	NO IMPACT

Mitigation Measures:

No mitigation required for this positive benefit.

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.

Table 14 below summarises the potential Impacts associated with the proposed development post mitigation. Please refer to the Section I (2) for the proposed mitigation measures to ensure the corresponding rating post mitigation.

Table 14: Summary of Impacts:

Impact	Preferred Alternative	No-Go Alternative
DESIGN / CONSTRUCTION PHASE		
SEWER LINE DESIGN IN THE FLOOD LINE (APPLICABLE TO ALL ZONES)	Low (+)	No Impact
DISTURBANCE OF ESTUARINE AND WETLAND HABITAT CAUSED BY CONSTRUCTION ACTIVITIES	Very Low (-)	No Impact
JOB CREATION	Low (+)	No Impact
OPERATIONAL PHASE		
POLLUTION OF WETLAND AND ESTUARINE HABITAT CAUSED BY PIPELINE BLOCKAGES	Low (-)	No Impact
DISTURBANCE OF WETLAND AND ESTUARINE HABITAT CAUSED BY MAINTENANCE ON PIPELINES (ZONE A, B AND ZONE D)	Very Low (-)	No Impact
IMPROVE EFFICIENCY AND RELIABILITY OF THE MUNICIPAL WASTEWATER NETWORK	Medium (+)	No Impact

Specialist Report Conclusions:

Estuarine Impact Assessment, Appendix G1:

The majority of the upgrades to the sewage pipeline will occur in transformed sections of the EFZ (Zone A, B, C and E) and no estuarine habitat will be directly disturbed in these zones. Where the pipeline does traverse estuarine habitat (Zone D), it does so within an existing servitude. Impacts to estuarine wetland habitat can however be mitigated to a low or negligible significance of impact and it is recommended that authorisation for the upgrade is granted.

Terrestrial Biodiversity Site Verification and Compliance Statement Report, Appendix G2:

The site sensitivity is verified to be Low from a terrestrial biodiversity perspective and not Very High as rated in the Environmental Screening Tool. This finding is based on:

- No functional plant communities of the original vegetation unit (Groot Brak Dune Strandveld) remain in the proposed development footprint. The other vegetation unit listed in the environmental screening tool report, Garden Route Granite Fynbos, is not present in the proposed development footprint.
- The Critical Biodiversity Areas that are located within the proposed linear development footprint area are mostly transformed and would also return to their current state within two years.

The specialist therefore recommends that the development proceed as planned from a terrestrial biodiversity perspective if the mitigation measures in Section 9 are captured in the Environmental Management Plan Report.

Plant Species Site Verification and Compliance Statement Report, Appendix G3:

The site sensitivity is verified to be Low from a plant species perspective and not Medium as rated in the Environmental Screening Tool. This finding is based on:

- No plant species of conservation concern is located within the proposed development footprint.
- The severe state of transformation of the proposed development footprint.
- The high percentage of alien vegetation located within the proposed development footprint.

The specialist therefore recommends that the development proceed as planned from a plant species perspective if the mitigation measures in Section 9 are captured in the Environmental Management Program.

Animal Species Site Verification and Compliance Statement Report, Appendix G4:

The site sensitivity is verified to be Low from an animal species perspective and not High as rated in the Environmental Screening Tool. This finding is based on:

- The proposed development footprint is highly transformed with very limited habitat for animal species.
- The threatened animal species listed in the environmental screening tool report do not occur on or near the proposed development footprint.
- No threatened animal species were observed during the field survey.

The specialist therefore recommends that the development proceed as planned from an animal species perspective if the mitigation measures in Section 9 are captured in the EMPr.

Agricultural Compliance Statement, Appendix G5:

The overall conclusion of this assessment is that the proposed development is acceptable because it leads to no loss of future agricultural production potential.

Although the climate, terrain, and soil suitability may allow for viable crop production, other factors constrain the potential of the site to practically deliver agricultural produce and therefore limit its agricultural production potential. These factors include its location in a built-up area and within a road reserve. For these reasons, the site will never be viably utilised for agricultural production, and its potential is therefore assessed here as non-existent.

This assessment disputes the high sensitivity classification of the site by the screening tool and verifies the entire site as being of low agricultural sensitivity because it has no agricultural production potential.

An agricultural impact must by definition cause a change to the future agricultural production potential of land. If there is no change, there is no impact. Because the site has no current agricultural production potential due to its location, the occupation of the site by the development cannot change its agricultural production potential. The development will therefore have zero agricultural impact and is therefore assessed as acceptable.

From an agricultural impact point of view, it is recommended that the proposed development be approved. The conclusion of this assessment on the acceptability of the proposed development and the recommendation for its approval is not subject to any conditions.

Palaeontological Impact Statement, Appendix G6:

In summary, the installation of the new sewer pipeline is not anticipated to significantly impact palaeontological heritage, due mainly to re-excavation of disturbed ground. Nevertheless, an occurrence of fossil bones cannot be entirely dismissed. It is advisable that a protocol for finds of bones, the Fossil Finds Procedure (FFP), is included in the Environmental Management Plan (EMP) for the project.

The Project Manager, foremen and workers involved in earthmoving must be informed of the need to watch for fossil bones. Workers seeing potential objects are to cease work at that spot and report to the Project Manager and/or the Environmental Control Officer (ECO) who must report the find to Heritage Western Cape (HWC), following the FFP. Heritage Western Cape will assess the information and liaise with an archaeological or palaeontological specialist, as appropriate. The intersection of a shelly bed must also be reported to HWC as per the FFP. The Mossel Bay Museum should be informed.

2. List the impact management measures that were identified by all Specialist that will be included in the EMP

Estuarine Assessment Mitigation Measures:

Design / Construction Phase:

Impact to mitigate:	Mitigation:
Sewer line design in the flood line (applicable to all zones): The entire pipeline route is located within the 1:50 and 1:100 year floodline. The primary concern around development of sewerage infrastructure in flood prone areas is prevention of the leakage of sewage during flood events which could pollute the wetland and estuary.	- Air valves along sewer lines must be elevated above the 1:100-year flood line. - Sewer manhole covers should not be made of metal because of the risk of theft. - Manholes must be designed to be watertight to prevent environmental contamination from leaking sewage and to avoid ingress of surface water during rainfall and flood events. Watertight manholes achieve this seal using components like gaskets on the manhole cover, proper joint sealing between sections, and leak-resistant pipe-to-manhole connections, which are essential for system integrity and cost efficiency.
Disturbance of estuarine and wetland habitat caused by construction activities: Construction activities in Zone A, B and D will take place in, or adjacent to natural freshwater and estuarine habitat. These activities include clearing of vegetation, excavation of trenches, stockpiling of materials and mixing of cement (e.g. for construction of manholes). Care must therefore be taken to minimise disturbance and impact on adjacent habitat.	- An Environmental Control Officer (ECO) must be appointed for the duration of the construction phase to monitor and report back on compliance with conditions of the environmental authorisation. - Consult weather forecasts daily and weekly. Do not work during rainfall and minimise the storage of mobile materials in low-lying areas. Plan the construction area as if it could be inundated with floodwaters in the event of a significant rainfall event. - Construction access for the pipeline through Zone D should utilise existing access points from Long Street. No new roads should be necessary. - The width of the working area through Zone D must be as narrow as possible and must be clearly demarcated. Estuarine habitat outside of this demarcated area must be considered as No-Go areas.

	• Revegetation of the pipeline through Zone D must be actively encouraged. The route is currently well covered by indigenous vegetation (e.g. sedges, <i>P. australis</i>, <i>Stenotaphrum secundatum</i> etc.). It is recommended that when trenching, a top layer of vegetation in association with 20-30 cm of soil should be removed and set aside for replanting or covering the filled in trench. • Open trenching for sewer lines should be done in as short a stretch as possible and backfilled with material as soon as possible to reduce the likelihood of material loss in the event of flooding. • Keep a skip on site so that any waste materials can be conveniently discarded and removed. This includes small amounts of dirty water, such as that used for mixing concrete. • Equipment and materials lay-down areas should be located away from estuarine habitat and stormwater channels leading into the estuary. Minimise the storage of loose materials in case of a flood event that could wash them into the estuary. • Post-construction site clean-up must be completed to ensure the entire site footprint and surrounding area has been cleared of litter and any waste materials associated with construction. The ECO should be informed of the construction close-out and complete an inspection to ensure this measure has been implemented. • The pipeline route through Zone D must be routinely inspected for the establishment of alien invasive plant species. This must be done at a high frequency following construction (i.e. monthly) and can be reduced once natural vegetation along the pipeline has recovered. These must be controlled by hand. No aerial application of herbicides is permitted. Herbicides may only be applied to cut-stumps and must be registered for use on the target plant species.
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Operational Phase:

Impact to mitigate:	Mitigation:
Pollution of wetland and estuarine habitat caused by pipeline blockages:	• When blockages to sewerage infrastructure within the EFZ occur, the

There is a high likelihood that occasional leaks will occur due to blockages or damaged sections of the pipeline. Standard operating procedures must be developed and implemented in order to detect, respond to and contain leaks when these do occur. The objective is to reduce the risk of pollution entering the estuary.	maintenance team should ensure a honey-sucker is on standby to mop up any spills or overflows for removal and disposal at the Wastewater Treatment Works. - Any serious sewage spills that result in large quantities of sewage leaking from a pump station or manhole must be contained in a temporary coffer dam which can be constructed using sandbags for the walls and plastic sheeting as a base. From here, honey-suckers can collect sewage for removal. - Any water-tight seals around manholes, joints or other access points that must be broken for maintenance should be replaced thereafter to ensure the mitigation measures to prevent water ingress or sewage leakage are maintained under flood scenarios. - Keep sewer lines clear of dense vegetation to facilitate access and reduce the risk of roots cracking sewer lines.
Disturbance of wetland and estuarine habitat caused by maintenance on pipelines (Zone A, B and Zone D): The operational phase primarily relates to maintenance and repairs required for the sewer lines within the EFZ. The proximity of the pipeline to estuarine habitat increases the risk that contractors appointed for maintenance could inadvertently create impacts to the estuary. Mitigation measures aim to reduce the risk of damage or disturbance to nearby estuarine or wetland habitat.	All of the mitigation measures provided for the construction phase are applicable to maintenance work where applicable.

Terrestrial Biodiversity Site Verification and Compliance Statement Report Mitigation Measures:

Construction Phase:

Impact to mitigate:	Mitigation:
Impact on terrestrial biodiversity	- The proposed development footprint should be fully demarcated (stakes and danger tape) during the construction phase, and all construction activities must be done within this demarcated area. - In the areas as displayed in Figures 11 to 14 (Appendix G2), the topsoil that is removed during construction must be kept separate from the lower soil and replaced accordingly - Alien invasive trees (<i>Acacia</i> spp.) within the proposed development footprint in the section, as displayed in Figures 11 to 14 (Appendix G2), should be removed.

Plant Species Site Verification and Compliance Statement Report Mitigation Measures:**Construction Phase:**

Impact to mitigate:	Mitigation:
Impact on plant species	• The proposed development footprint should be fully demarcated (stakes and danger tape) during the construction phase, and all construction activities must be done within this demarcated area. • In the areas as displayed in Figures 11 to 14 (Appendix G3), the topsoil that is removed during construction must be kept separate from the lower soil and replaced accordingly • Alien invasive trees (<i>Acacia</i> spp.) within the proposed development footprint in the section, as displayed in Figures 11 to 14 (Appendix G3), should be removed.

Animal Species Site Verification and Compliance Statement Report Mitigation Measures:**Construction Phase:**

Impact to mitigate:	Mitigation:
Impact on animal species	• The proposed development footprint should be fully demarcated (stakes and danger tape) during the construction phase, and all construction activities must be done within this demarcated area. • Ditches that are dug for the sewage pipelines should be inspected daily for the presence of trapped animals (frogs, snakes, small mammals).

Palaeontological Impact Statement Mitigation Measures:**Construction Phase:**

Impact to mitigate:	Mitigation:
Finding of fossil bones during construction.	• It is advisable that a protocol for finds of bones, the Fossil Finds Procedure (FFP), is included in the Environmental Management Plan (EMP) for the project. • The Project Manager, foremen and workers involved in earthmoving must be informed of the need to watch for fossil bones. Workers seeing potential objects are to cease work at that spot and report to the Project Manager and/or the Environmental Control Officer (ECO) who

	must report the find to Heritage Western Cape (HWC), following the FFP. The intersection of a shelly bed must also be reported to HWC as per the FFP. The Mossel Bay Museum should be informed.
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. All of the impact management measures of the appointed specialists will be implemented.
4.	Explain how the proposed development will impact the surrounding communities. During the construction phase the surrounding community will be temporarily inconvenienced by the construction noise impacts and visual impacts associated with a construction site however this impact is temporary in nature. Labourers from the communities will be used as labourer during the construction phase.
5.	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. The potential impacts of climate change such as flooding, sea-level rise, and coastal erosion have been considered during the planning and design of the proposed sewerage pipeline upgrade. The infrastructure will be constructed using corrosion-resistant materials, and protected through erosion control and rehabilitation measures. These interventions ensure the pipeline's resilience to projected climate variability and contribute to long-term sustainability of municipal services.
6.	Explain whether there are any conflicting recommendations between the specialists. If so, explain how these have been addressed and resolved. No conflicting recommendations.
7.	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. All impact management measures that were identified by all the Specialists have been included in the EMPr. Please refer to Section I (2.) for the Specialists Impact Management Measures.
8.	Explain how the mitigation hierarchy has been applied to arrive at the best practicable environmental option.
Table 15: Mitigation Hierarchy	
1	AVOID IMPACTS THE TEMPORARY IMPACTS TO THE BIOPHYSICAL ENVIRONMENT ARE UNAVOIDABLE
2	MINIMISE IMPACTS THE IMPACTS WILL BE MINIMISED THROUGH THE IMPLEMENTATION OF THE MITIGATION MEASURES WITHIN THE EMPr
3	RECTIFY THE DISTURBANCES CREATED BY THE CONSTRUCTION PHASE WILL BE REHABILITATED IN ACCORDANCE WITH THE EMPr
4	OFFSET NONE NECESSARY

SECTION J: GENERAL

1. Environmental Impact Statement

1.1.	Provide a summary of the key findings of the EIA.
Table 16 below summarises the potential Impacts associated with the proposal. Please refer to the Section I (2) for the proposed mitigation measures to ensure the corresponding rating post mitigation. The findings of the Specialists have been taken into consideration in this BAR and the impact management measures identified by all the Specialists have been incorporated into the EMPr and will thus ensure that, through the implementation of the EMPr that the potential impacts are mitigated to the significance ratings as shown in Table 16 and that impacts to the environment for the proposal are minimised and that the proposal is undertaken in a sustainable manner.	
Table 16: Summary of Impacts:	

Impact	Preferred Alternative	No-Go Alternative
DESIGN / CONSTRUCTION PHASE		
SEWER LINE DESIGN IN THE FLOOD LINE (APPLICABLE TO ALL ZONES)	Low (+)	No Impact
DISTURBANCE OF ESTUARINE AND WETLAND HABITAT CAUSED BY CONSTRUCTION ACTIVITIES	Very Low (-)	No Impact
JOB CREATION	Low (+)	No Impact
OPERATIONAL PHASE		
POLLUTION OF WETLAND AND ESTUARINE HABITAT CAUSED BY PIPELINE BLOCKAGES	Low (-)	No Impact
DISTURBANCE OF WETLAND AND ESTUARINE HABITAT CAUSED BY MAINTENANCE ON PIPELINES (ZONE A, B AND ZONE D)	Very Low (-)	No Impact
IMPROVE EFFICIENCY AND RELIABILITY OF THE MUNICIPAL WASTEWATER NETWORK	Medium (+)	No Impact

Specialist Report Conclusions:

Estuarine Impact Assessment, Appendix G1:

The majority of the upgrades to the sewage pipeline will occur in transformed sections of the EFZ (Zone A, B, C and E) and no estuarine habitat will be directly disturbed in these zones. Where the pipeline does traverse estuarine habitat (Zone D), it does so within an existing servitude. Impacts to estuarine wetland habitat can however be mitigated to a low or negligible significance of impact and it is recommended that authorisation for the upgrade is granted.

Terrestrial Biodiversity Site Verification and Compliance Statement Report, Appendix G2:

The site sensitivity is verified to be Low from a terrestrial biodiversity perspective and not Very High as rated in the Environmental Screening Tool. This finding is based on:

- No functional plant communities of the original vegetation unit (Groot Brak Dune Strandveld) remain in the proposed development footprint. The other vegetation unit listed in the environmental screening tool report, Garden Route Granite Fynbos, is not present in the proposed development footprint.
- The Critical Biodiversity Areas that are located within the proposed linear development footprint area are mostly transformed and would also return to their current state within two years.

The specialist therefore recommends that the development proceed as planned from a terrestrial biodiversity perspective if the mitigation measures in Section 9 are captured in the Environmental Management Plan Report.

Plant Species Site Verification and Compliance Statement Report, Appendix G3:

The site sensitivity is verified to be Low from a plant species perspective and not Medium as rated in the Environmental Screening Tool. This finding is based on:

- No plant species of conservation concern is located within the proposed development footprint.

- The severe state of transformation of the proposed development footprint.
- The high percentage of alien vegetation located within the proposed development footprint.

The specialist therefore recommends that the development proceed as planned from a plant species perspective if the mitigation measures in Section 9 are captured in the Environmental Management Program.

Animal Species Site Verification and Compliance Statement Report, Appendix G4:

The site sensitivity is verified to be Low from an animal species perspective and not High as rated in the Environmental Screening Tool. This finding is based on:

- The proposed development footprint is highly transformed with very limited habitat for animal species.
- The threatened animal species listed in the environmental screening tool report do not occur on or near the proposed development footprint.
- No threatened animal species were observed during the field survey.

The specialist therefore recommends that the development proceed as planned from an animal species perspective if the mitigation measures in Section 9 are captured in the EMPr.

Agricultural Compliance Statement, Appendix G5:

The overall conclusion of this assessment is that the proposed development is acceptable because it leads to no loss of future agricultural production potential.

Although the climate, terrain, and soil suitability may allow for viable crop production, other factors constrain the potential of the site to practically deliver agricultural produce and therefore limit its agricultural production potential. These factors include its location in a built-up area and within a road reserve. For these reasons, the site will never be viably utilised for agricultural production, and its potential is therefore assessed here as non-existent.

This assessment disputes the high sensitivity classification of the site by the screening tool and verifies the entire site as being of low agricultural sensitivity because it has no agricultural production potential.

An agricultural impact must by definition cause a change to the future agricultural production potential of land. If there is no change, there is no impact. Because the site has no current agricultural production potential due to its location, the occupation of the site by the development cannot change its agricultural production potential. The development will therefore have zero agricultural impact and is therefore assessed as acceptable.

From an agricultural impact point of view, it is recommended that the proposed development be approved. The conclusion of this assessment on the acceptability of the proposed development and the recommendation for its approval is not subject to any conditions.

Palaeontological Impact Statement, Appendix G6:

In summary, the installation of the new sewer pipeline is not anticipated to significantly impact palaeontological heritage, due mainly to re-excavation of disturbed ground. Nevertheless, an occurrence of fossil bones cannot be entirely dismissed. It is advisable that a protocol for finds of bones, the Fossil Finds Procedure (FFP), is included in the Environmental Management Plan (EMP) for the project.

The Project Manager, foremen and workers involved in earthmoving must be informed of the need to watch for fossil bones. Workers seeing potential objects are to cease work at that spot and report to the Project Manager and/or the Environmental Control Officer (ECO) who must report the find to Heritage Western Cape (HWC), following the FFP. Heritage Western Cape will assess the information

and liaise with an archaeological or palaeontological specialist, as appropriate. The intersection of a shelly bed must also be reported to HWC as per the FFP. The Mossel Bay Museum should be informed

- 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)

Please refer to Appendix B2

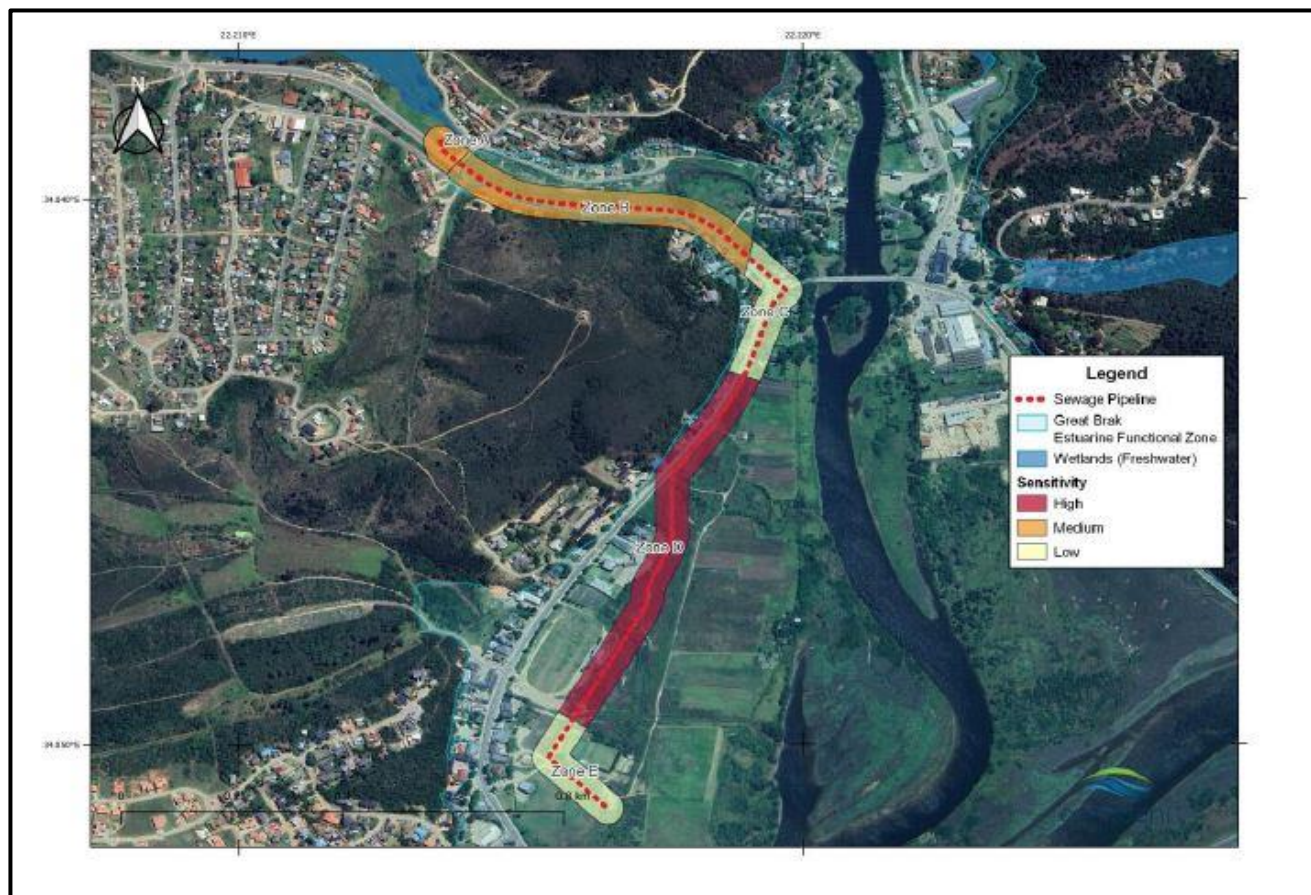


Figure 24: Sensitivity Zones.

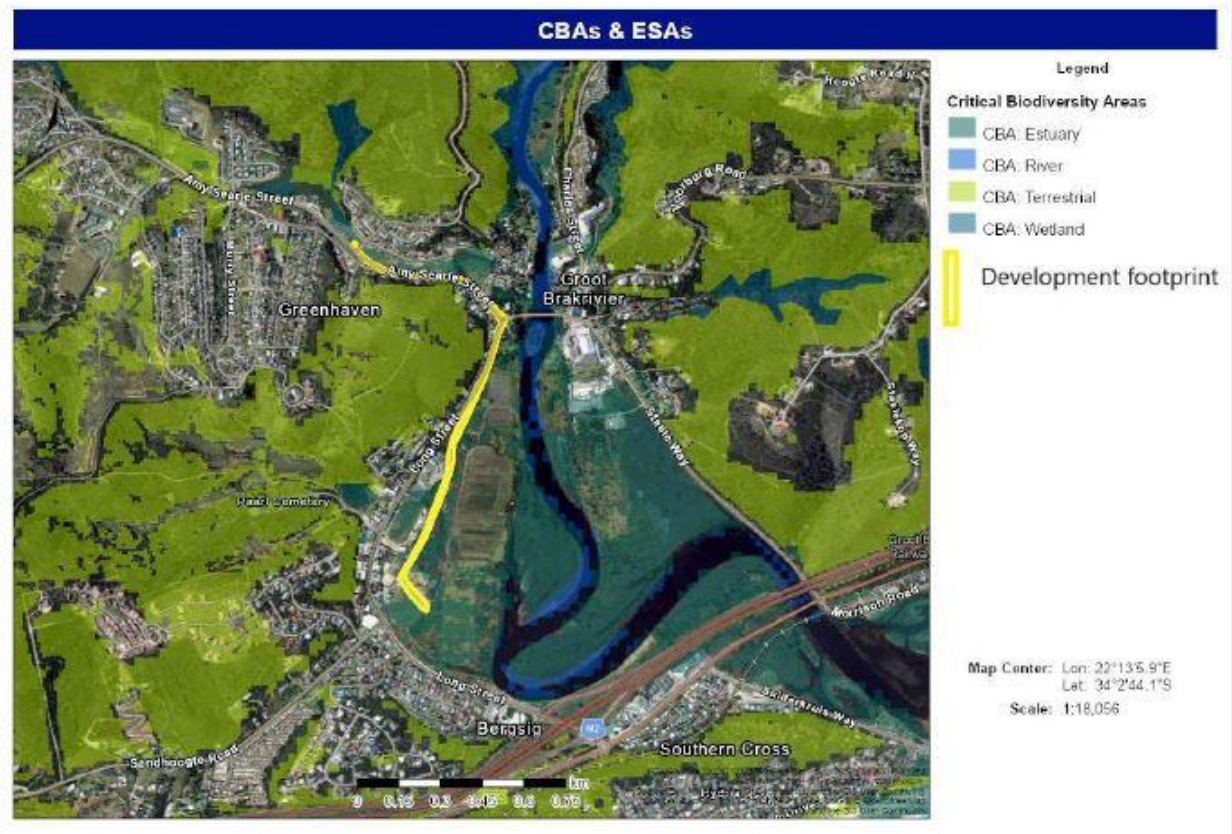


Figure 25: Critical Biodiversity Areas and Ecological Support Areas.

- | | |
|------|---|
| 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. |
|------|---|

Positive

- Temporary job opportunities during the construction phase
- improved efficiency, reliability, and environmental compliance of the municipal wastewater network
- reduced risk of sewage leaks, odours, and contamination, contributing to a healthier and safer living environment.
- Capital expenditure in Grootbrak Rivier.

Negatives

- Temporary noise and construction related inconveniences.
- Temporary disturbance and impacts to the natural environment

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 |
|------|--|

In order to obtain/reach the impact management objects the corresponding mitigation measures prescribed in the BAR and EMPr must be implemented.

The Impact monitoring will be undertaken by an appointed and independent ECO.

The impact management outcomes will be monitored by the appointed ECO, in addition to the implementation of mitigation measures during the duration of the development, if all management mitigation measures are implemented successfully the resulting impact management outcomes will mean that the develop was undertaken with no significant or avoidable impacts to the environment. Impact management objectives and impact management outcomes included in the EMPr.

PRE-CONSTRUCTION PHASE	
IMPACT MANAGEMENT OBJECTIVES	IMPACT MANAGEMENT OUTCOMES
To appoint a suitably qualified and experienced Environmental Control Office	The conditions of Environmental Authorisation and the requirements of the EMPr are implemented and monitored during all phases of the development, which will promote sound environmental management on site.
To ensure the EMPr adheres to the requirements of the Environmental Authorisation and makes provision for the final detailed site layout	Good environmental management is promoted on site.
Identify and demarcate no-go areas, working areas and site facilities	Future construction activities will be restricted to within the designated areas & environmentally sensitive areas (no-go areas) will be protected from disturbance.
To set up and equip the site camp and associated site facilities in a manner that will promote good environmental management.	Site camp facilities do not impact significantly on environment. The equipment required to implement the provisions of the EMPr are provided on site.
Environmental Control Officer to conduct an inspection prior to the commencement of construction activities on site.	Good environmental management is promoted and enforced by the ECO during the full pre-construction and construction phases. Site facilities are appropriately located on site. Construction workers receive environmental awareness training before commencing work on site
Sewer line design in the flood line	Leakages during flooding events are prevented.
CONSTRUCTION PHASE	
To limit the impact on terrestrial biodiversity	Impact on terrestrial biodiversity is limited to the construction footprint and only to what is required to undertake the activities.
To limit the impact on plant species	Impact on plant species is limited to the construction footprint and only to what is required to undertake the activities.
To prevent the impact on animal species	Impact on animal species is prevented.
To limit the disturbance of estuarine and wetland habitat caused by construction activities	Impact on estuarine and wetland habitat during construction is limited.

To create employment opportunities with potential for skills transfer, for members of the local community.	The local community benefits from the employment opportunities created during the construction phase.
POST CONSTRUCTION REHABILITATION PHASE	
To rehabilitate all areas disturbed by construction activities in an environmentally sensitive manner.	The site is neat and tidy and all exposed surfaces are suitably covered/ stabilised. There is no construction-related waste or pollution remaining on site.
Limit pollution of wetland and estuarine habitat caused by pipeline blockages.	Pollution of wetland and estuarine habitat caused by pipeline blockages is limited / prevented.
To limit disturbance of wetland and estuarine habitat caused by maintenance on pipelines (Zone A, B and Zone D).	Disturbance of wetland and estuarine habitat caused by maintenance on pipelines (Zone A, B and Zone D) is limited.
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.
The EMPr must be implemented, this is however a standard condition of Environmental Authorisation. All mitigation measures from the specialists have been incorporated into the EMPr and as such are conditional to the environmental authorisation.	
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.
The proposed development (preferred and only alternative) should be authorised. As seen in the body of this Basic Assessment Report, the negative impacts associated with the construction phase can be mitigated to that of a low significance. As the proposal is to upgrade a section of the existing sewerage pipeline the negative impacts associated with the proposal are far outweighed by the positive impact of maintaining and upgrading existing sewerage infrastructure. Proposed Conditions of Authorisation: • The EMPr must be implemented. • An ECO must be appointed to monitor compliance with the EMPr	
2.4.	Provide a description of any assumptions, uncertainties and gaps in knowledge that relate to the assessment and mitigation measures proposed.
It is assumed that the proposed mitigation measures as listed in this report and the EMPr (Appendix H) will be implemented and adhered to as the significance of impacts ratings are conditional on implementation of the mitigation measures.	
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.
<u>Time required to undertake the activities:</u> 1 year for tendering purposes 2 years construction and rehabilitation phase 2 years for follow up alien clearing and rehabilitation monitoring Total proposed validity period of EA: 5 years	

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.
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Proposal will not use water.

4. Waste

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

Only packaging waste will be generated by materials brought to site. An integrated waste management system must be adopted on site in accordance with the EMPr. Unrecyclable items will be taken to the municipal landfill site.
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5. Energy Efficiency

8.1.	Explain what design measures have been taken to ensure that the development proposal will be energy efficient.
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Not applicable to the proposal.	
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SECTION K: DECLARATIONS

DECLARATION OF THE APPLICANT

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

I Mr. S. Naidoo, ID number 6210245252084 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.



15/04/2026

Signature of the Applicant:

Date:

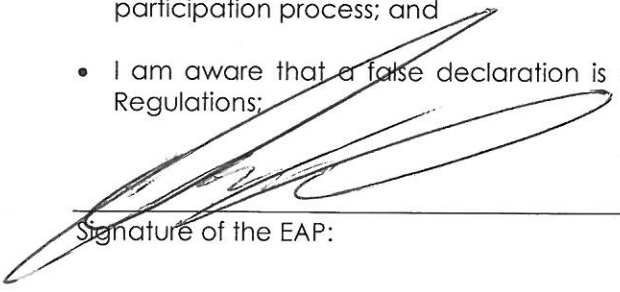
Mossel Bay Municipality

Name of company (if applicable):

DECLARATION OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER ("EAP")

I Michae Jon Bennett, EAP Registration number 2021/3163 as the appointed EAP hereby declare/affirm the correctness of the:

- 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;


Signature of the EAP:

15 April 2026
Date:

Sharples Environmental Services cc
Name of company (if applicable):

~~DECLARATION OF THE REVIEW EAP~~

I....., EAP 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.~~

Signature of the EAP: _____ Date: _____

Name of company (if applicable): _____

DECLARATION OF THE SPECIALIST

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.

Signature of the EAP: _____ Date: _____

Name of company (if applicable): _____

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.

Signature of the EAP: _____ Date: _____

Name of company (if applicable):