



LEGACY

ENVIRONMENTAL
MANAGEMENT
CONSULTING

**EXPANSION OF THE EXISTING HAWSTON WASTEWATER TREATMENT
WORKS (WWTW) ON A PORTION OF THE REMAINING EXTENT OF ERF 1,
HAWSTON, WESTERN CAPE**

DEA&DP REFERENCE: 16/3/3/6/7/1/E2/14/1200/25

DRAFT BASIC ASSESSMENT REPORT

FOR COMMENT

AUGUST 2026

REF NO: 24035-HWWTW-GES-001

PROJECT DETAILS

TITLE	Expansion of the existing Hawston Wastewater Treatment Works (WWTW) on a portion of the remaining extent of Erf 1, Hawston, Western Cape
COMPETENT AUTHORITY REF. NO.	16/3/3/6/7/1/E2/14/1200/25
REPORT TYPE	Basic Assessment Report
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REVISION	1
AUTHOR	Lauren Abrahams
PEER REVIEWED BY	Kim Pontac
CLIENT REF. NO.	-

APPLICANT DETAILS

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ENVIRONMENTAL PRACTITIONER

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Disclaimer

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The Author / Environmental Assessment Practitioner (EAP) herewith confirms the correctness of the information provided in this Report, including supporting documents and reports, to the best of his/ her knowledge.

Neither Legacy EMC nor any of the authors of this Report have any material present or contingent interest in the outcome of this Project, nor do they have any pecuniary or other interest that could be reasonably regarded as being capable of affecting their independence or that of Legacy EMC.

Legacy EMC has no beneficial interest in the outcome of the assessment which is capable of affecting its independence.



Lauren Abrahams

(Environmental Assessment Practitioner)

Signature of the Environmental Assessment Practitioner

Legacy Environmental Management Consulting (Pty) Ltd.

Name of the Company

27 August 2026

Date



**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)

Expansion of the existing Hawston Wastewater Treatment Works (WWTW) on a portion of the remaining extent of Erf 1, Hawston, Western Cape.

The Overstrand Municipality proposes to upgrade and expand the existing Hawston Wastewater Treatment Works (WWTW), located approximately 11 km west of Hermanus and accessible via Church Street, Hawston. This upgrade seeks to increase the treatment capacity of the WWTW to accommodate projected growth and enhance the treatment efficacy to meet regulatory standards. The existing WWTW operates at a design average dry weather flow (ADWF) rate of 1.0 Ml/day using the Modified Ludzack-Ettinger (MLE) process, which includes biological treatment, secondary settling, disinfection, sludge handling, and drying.

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

	Appendix E9:	Comment from WCG: DoH	N/A
	Appendix E10:	Comment from DEA&DP: Pollution Management	Requested – to be appended to FBAR
	Appendix E11:	Comment from DEA&DP: Waste Management	Requested – to be appended to FBAR
	Appendix E12:	Comment from DEA&DP: Biodiversity	N/A
	Appendix E13:	Comment from DEA&DP: Air Quality	N/A
	Appendix E14:	Comment from DEA&DP: Coastal Management	N/A
	Appendix E15:	Comment from the local authority	Requested – to be appended to FBAR
	Appendix E16:	Confirmation of all services (water, electricity, sewage, solid waste management)	N/A
	Appendix E17:	Comment from the District Municipality	Requested – to be appended to FBAR
	Appendix E18:	Copy of an exemption notice	N/A
	Appendix E19	Pre-approval for the reclamation of land	N/A
	Appendix E20:	Proof of agreement/TOR of the specialist studies conducted.	Refer to Specialist Reports (Appendix G)
	Appendix E21:	Proof of land use rights	✓
	Appendix E22:	Proof of public participation agreement for linear activities	N/A
Appendix F:	Appendix F1:	I&AP Database	✓
	Appendix F2:	Comments and Responses Report	To be appended to FBAR
	Appendix F3:	proof of notices, advertisements and any other public participation information as is required	To be appended to FBAR
Appendix G:	Specialist Report(s)		✓
Appendix H1:	EMPr		✓
Appendix H2:	MMP		✓

Appendix I:	Screening tool report	✓
Appendix J:	The impact and risk assessment for each alternative	✓
Appendix K:	Need and desirability for the proposed activity or development in terms of this Department's guideline on Need and Desirability (March 2013)/DEA Integrated Environmental Management Guideline	Refer to Section E of the BAR
Appendix L:	Existing Lawful WU	✓
Appendix M:	SSVR	✓
Appendix N:	Heritage Screener	✓
Appendix.....	Any other attachments must be included as subsequent appendices	

SECTION A: ADMINISTRATIVE DETAILS

Highlight the Departmental Region in which the intended application will fall	CAPE TOWN OFFICE: REGION 1		GEORGE OFFICE: REGION 3
	(City of Cape Town, West Coast District)	(Cape Winelands District & Overberg District)	(Central Karoo District & Garden Route District)
Name of Applicant/Proponent:	Overstrand Municipality		
Name of contact person for Applicant/Proponent (if other):	Hanré Blignaut		
Company/ Trading name/State Department/Organ of State:	Municipality		
Company Registration Number:	NA		
Postal address:	8 Harmony Lane		
	Hermanus	Postal code: 7200	
Telephone:	028 313 5047	Cell: NA	
E-mail:	hblignaut@overstrand.gov.za	Fax: NA	
Company of EAP:	Legacy Environmental Management Consulting (Pty) Ltd.		
EAP name:	Lauren Abrahams (Review EAP)		
Postal address:	PO Box 12410, Die Boord		
	Stellenbosch	Postal code: 7602	
Telephone:	021 887 4000	Cell: 066 210 9892	
E-mail:	lauren@legacyemc.co.za	Fax: 021 205 1966	
Qualifications:	Lauren Abrahams: BTech: Oceanography [2010]; ND: Oceanography [2009]		
EAP registration no:	Lauren Abrahams: Reg. EAP (2019/656) (EAPASA)		
Duplicate this section where there is more than one landowner	Same as Applicant		
Name of landowner:			
Name of contact person for landowner (if other):			
Postal address:			
		Postal code:	
Telephone:	()	Cell:	
E-mail:		Fax: ()	
Name of Person in control of the land:	Same as Applicant		
Name of contact person for person in control of the land:			
Postal address:			
		Postal code:	
Telephone:	()	Cell:	
E-mail:		Fax: ()	
Duplicate this section where there is more than one Municipal Jurisdiction	Overstrand Municipality		
Municipality in whose area of jurisdiction the proposed activity will fall:			
Contact person:	Municipal Manager: Dr. Dean O'Neill		
Postal address:	8 Harmony Lane		
	Hermanus	Postal code: 7200	
Telephone:	028 313 8003	Cell: -	
E-mail:	mm@overstrand.gov.za	Fax: -	

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

1.	Is the proposed development (please tick):	New		Expansion	✓
2.	Is the proposed site(s) a brownfield or greenfield site? Please explain.				
The proposed expansion area is considered as a greenfield site as it is underutilised vacant land with indigenous vegetation.					
3.	For Linear activities or developments - NA				
3.1.	Provide the Farm(s)/Farm Portion(s)/Erf number(s) for all routes:				
3.2.	Development footprint of the proposed development for all alternatives:				m ²
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.				
3.4.	Indicate how access to the proposed routes will be obtained for all alternatives.				
3.5.	SG — Digit codes — of the Farms/Farm Portions/Erf numbers for — all alternatives				
3.6.	Starting point co-ordinates for all alternatives				
	Latitude (S)				
	Longitude (E)				
	Middle point co-ordinates for all alternatives				
	Latitude (S)				
	Longitude (E)				
	End point co-ordinates for all alternatives				
	Latitude (S)				
	Longitude (E)				
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):				2532381.2 m ²
4.2.	Developed footprint of the existing facility and associated infrastructure (if applicable):				29278.75 m ²
4.3.	Development footprint of the proposed development and associated infrastructure size(s) for all alternatives:				8937 m ²
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).				
The proposed development entails the upgrade and expansion of the existing Hawston Wastewater Treatment Works (WWTW). The primary objective of the project is to increase the treatment capacity of the existing facility from approximately 1.0 Ml/day to 3.5 Ml/day during Phase 1 through the addition of 2.5 Ml/day treatment capacity, while making provision for a future Phase 2 expansion of an additional 2.5 Ml/day, resulting in an ultimate treatment capacity of approximately 6.0 Ml/day. The proposed Phase 1 upgrade will comprise the construction and installation of the following infrastructure: • A new raw sewage pump station. • New inlet works.					

- A new biological reactor.
- A new secondary settling tank.
- A new Return Activated Sludge (RAS) pump station.
- A chlorine contact channel.
- A new sludge dewatering building and associated dewatering infrastructure.
- Interconnecting pipelines and pipework.
- Internal roadworks and walkways.
- Stormwater management infrastructure.
- Paving, handrails and ancillary structures.
- New motor control centre (MCC), electrical reticulation and control systems.

The detailed scope of works includes:

- Construction of a new Raw Sewage Pump Station, including all associated civil works, mechanical equipment, electrical infrastructure, instrumentation and control systems. Civil infrastructure will be designed to accommodate future expansion requirements.
- Construction of new Inlet Works, including a mechanical coarse front rake screen, vortex de-gritting system, grit classifier, washer compactors, Parshall flume, skip dolly system and associated auxiliary equipment. Civil infrastructure will accommodate future expansion requirements.
- Construction of a new Biological Reactor incorporating vertical shaft mixers, surface aerators, A-Recycle pumps, R-Recycle pumps, a Waste Activated Sludge (WAS) pump station and associated mechanical, electrical and control equipment.
- Construction of a new Secondary Settling Tank, including the inlet well, rotating bridge, surface skimmer, bottom sludge scrapers, weirs, scum baffles, telescopic valves and associated equipment.
- Construction of a new Return Activated Sludge (RAS) Pump Station, including all associated mechanical and electrical equipment.
- Construction of a Chlorine Contact Channel and associated chlorination infrastructure, mechanical equipment and electrical installations.
- Construction of a new Dewatering Building to house the sludge dewatering systems, including sludge feed pumps, polymer make-up and dosing systems, conveyors, supernatant pumps and associated mechanical and electrical infrastructure. Provision will be made for future expansion requirements.
- Installation of all interconnecting pipework and associated fittings.
- Construction of internal paving, handrails, grating, access roads and walkways.
- Construction of stormwater management infrastructure, including associated drainage and runoff control measures.
- Supply and installation of a new Motor Control Centre (MCC), including:
 - LV control systems;
 - Cabling and supports;
 - Building services; and
 - Automation and control instrumentation.

The upgraded facility will utilise an Enhanced Biological Phosphorus Removal (EBPR) treatment process based on a modified University of Cape Town (UCT) configuration and will be integrated with the existing wastewater treatment infrastructure to improve treatment performance, compliance and long-term service delivery requirements within the Overstrand Municipal area.

4.5. Indicate how access to the proposed site(s) will be obtained for all alternatives.

Access is existing to the WWTW.

4.6.	SG Digit code(s) of the proposed site(s) for all alternatives:	C	0	1	3	0	0	1	2	0	0	0	0	0	0	0	1	0	0	0	0	0
4.7.	Coordinates of the proposed site(s) for all alternatives:																					
	Latitude (S)	34°							22'							36.80"						
	Longitude (E)	19°							7'							46.12"						

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
---	-----	----

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.
Overstrand Municipality Legislation / By-laws & Tools: Overstrand Municipality: Water Supply and Sanitation Services By-law, 2022 This is directly relevant. It regulates provision of water supply and sanitation services, including standards, connections, discharges, wastewater handling, etc. Upgrading pump stations, inlet works, dewatering etc will need to comply with this by-law. Overstrand Municipality: Waste Management By-Law, 2021 Dealing with mechanical screenings, grit, sludge as waste, handling, disposal, possibly licensing or registration for waste streams. Overstrand Municipality: By-Law on Municipal Land Use Planning (Amendment By-Law 2020) Impacts land use approvals, rezoning, departures or consent uses; deciding whether WWTW expansion is allowed in the zoning of its site. Also overlay zones might apply (heritage, environmental etc.). Overstrand Municipality: Building Plans / Building Control Any new buildings (pump stations, dewatering building, MCC building, etc.) must follow building plan approvals under National Building Regulations via Overstrand building control.

4. Policies

Explain which policies were considered and how the proposed activity or development complies and responds to these policies.
Local Instruments / Policies: Integrated Development Plan (IDP) of Overstrand – strategic planning. The WWTW expansion likely must align with the municipality's IDP (service delivery goals, infrastructure planning). Zoning / Overlay Zones (Heritage Protection Overlay Zones (HPOZ), Environmental Management Overlay Zones (EMOZ), etc.) under the Land Use Planning by-laws. If the site is in or near such overlay, additional restrictions may apply.

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.
"One Environmental Management System" and the 2014 EIA Regulations (Circular: EADP 0028/2014)

The proposed activity is being undertaken in accordance with the requirements of the EIA Regulations (2014, as amended) and the concept of the “one environmental system”.

DEA: Public Participation Guidelines in terms of the NEMA EIA Regulations (2017)

The Public Participation Process, as included in Regulation 41 of the EIA Regulations 2014, as amended, will be undertaken. DEA's Guideline on Public Participation will be consulted throughout the Basic Assessment Process.

DEA&DP: Guideline on Need and Desirability (2013)

Cognisance will be taken of the Guideline on Need and Desirability during the Basic Assessment Process. Refer to **Section E12** below.

DEA: Guideline for Environmental Management Plans (2005)

This guideline was applied to inform and guide the preparation of the draft Environmental Management Programme (EMPr) in a manner that promotes the effectiveness of the EMPr.

DEA&DP: Guideline on Alternatives (2013)

The investigation and assessment of alternatives included in this report were informed by the Guideline on Alternatives (2013), as the quality of an EIA depends on the quality of alternatives investigated and/or assessed.

DEA&DP: Guideline for the Review of Specialist Input in the EIA process (June 2005)

This guideline was consulted to inform the review of specialist input as part of the BA process, where applicable.

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

Refer to the Site Verification Report (SVR) attached as **Appendix I**.

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.
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; (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.	Construction of infrastructure exceeding 10 m² within a watercourse or within 32 m of a watercourse. The wetland assessment confirms the presence of seepage wetlands adjacent to the development area and recommends maintaining buffers and implementing stormwater controls.
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 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.	The proposed expansion will result in the clearance of at least 300 m² of indigenous vegetation identified as a CBA¹.
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.
NA		

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.
NA		

¹ CapeNature (2024). 2023 Western Cape Biodiversity Spatial Plan and Guidelines. Biodiversity Capabilities, CapeNature. Link: <https://www.capenature.co.za/western-cape-biodiversity-spatial-plan> was adopted in Provincial Gazette 9017 in PN127/2024 of 13 December 2024.

SECTION E: PLANNING CONTEXT AND NEED AND DESIRABILITY

1.	Provide a description of the preferred alternative.
Refer to Section B - (3.3) and (3.4) above for a detailed description of the preferred alternative.	
2.	Explain how the proposed development is in line with the existing land use rights of the property as you have indicated in the NOI and application form? Include the proof of the existing land use rights granted in Appendix E21. The proposed development is consistent with the existing land use rights applicable to the subject property. The development entails the expansion and upgrading of the existing Hawston Wastewater Treatment Works (WWTW), which is an established municipal service infrastructure facility already operating on the property. The proposed works do not introduce a new land use but rather constitute an extension and enhancement of the existing wastewater treatment function to accommodate increased treatment demand and improve treatment efficiency. The property is currently zoned Authority Zone: Authority Usage, which permits municipal and public service infrastructure associated with local government functions. The existing WWTW is located on the property and has lawfully operated in support of municipal wastewater services. The proposed upgrade therefore remains aligned with the existing zoning and authorised land use of the property and does not require a change in land use rights or rezoning application. The upgrade will increase the treatment capacity of the existing Hawston WWTW through the construction of additional treatment infrastructure, including a new raw sewage pump station, inlet works, biological reactor, secondary settling tank, Return Activated Sludge (RAS) pump station, chlorine contact channel, dewatering facilities, associated electrical infrastructure, stormwater management infrastructure and ancillary works. These components are all directly related to and necessary for the continued operation of the wastewater treatment facility and are therefore compatible with the current land use of the site. Proof of the existing land use rights and zoning applicable to the property is provided in Appendix E21 (Zoning Map), which confirms the property's zoning as Authority Usage. The proposed development is therefore considered to be in line with the existing land use rights applicable to the property.
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 conflict has been identified between the proposed development and existing approvals applicable to the site. The proposed development entails the upgrade and expansion of the existing Hawston Wastewater Treatment Works (WWTW) and does not introduce a new land use on the property. Rather, the proposal expands an existing municipal wastewater treatment facility within the existing municipal service infrastructure footprint and in accordance with the existing land use rights applicable to the property.
4.	Explain how the proposed development will be in line with the following?
4.1	The Provincial Spatial Development Framework. The proposed expansion of the existing Hawston Wastewater Treatment Works (WWTW) is considered to be consistent with the objectives and spatial principles of the Western Cape Provincial Spatial Development Framework (PSDF) as it supports the provision and upgrading of essential municipal engineering services within an existing urban area and on land already utilised for municipal infrastructure purposes. The development does not facilitate urban sprawl or the establishment of a new incompatible land use but rather improves the capacity and functionality of existing wastewater treatment infrastructure required to support the existing and planned development within Hawston and the greater Overstrand Municipal area. The PSDF promotes the optimisation and efficient use of existing infrastructure networks, directing investment towards the maintenance and upgrading of strategic public infrastructure necessary to support sustainable human settlements and economic development. The proposed development aligns with these objectives by upgrading an existing WWTW to address current and future wastewater treatment demands and improve service delivery to the surrounding communities. The proposal further supports the PSDF principle of infrastructure-led development by enhancing municipal bulk services within an established service footprint. The project is located adjacent to the existing Hawston WWTW and utilises land already associated with municipal service provision. As such, the development represents the consolidation and expansion of existing infrastructure rather than the establishment of new infrastructure in an undeveloped or remote location. In addition, the PSDF seeks to promote environmentally sustainable development by ensuring that development proposals adequately consider environmental constraints and sensitivities. Specialist investigations undertaken for the project have assessed biodiversity, aquatic and wetland sensitivities, heritage resources and other environmental considerations. The findings of these studies have informed the project design and mitigation measures incorporated into the BAR and EMP to ensure that environmental impacts are avoided, minimised or appropriately managed. The proposal will also contribute to improved water resource protection and environmental management outcomes by upgrading wastewater treatment processes and increasing treatment capacity to meet present and future demand. The Detailed Design Report indicates that the upgraded facility will implement an Enhanced Biological Phosphorus Removal

(EBPR) treatment process and associated infrastructure improvements aimed at enhancing treatment performance and regulatory compliance.

Accordingly, the proposed development is considered to be consistent with the Western Cape PSDF insofar as it:

- Supports the upgrading and optimisation of existing municipal engineering infrastructure;
- Improves access to essential public services and infrastructure;
- Makes efficient use of existing infrastructure and serviced land;
- Supports sustainable settlement planning and future growth within the Overstrand Municipal area;
- Promotes environmentally responsible development through the implementation of specialist recommendations and mitigation measures.

The proposed expansion of the Hawston WWTW is therefore considered to be aligned with the spatial vision, development principles and infrastructure objectives contained within the Western Cape Provincial Spatial Development Framework.

4.2 The Integrated Development Plan of the local municipality.

The proposed expansion and upgrading of the existing Hawston Wastewater Treatment Works (WWTW) is aligned with the strategic objectives and development priorities of the Overstrand Municipality's Integrated Development Plan (IDP), particularly insofar as it supports the provision, maintenance and upgrading of essential municipal infrastructure required to accommodate existing and future service delivery demands. The proposal seeks to expand the treatment capacity of the existing Hawston WWTW from its current capacity through the addition of 2.5 Ml/day during Phase 1, with provision for a further 2.5 Ml/day in a future expansion phase, thereby enhancing the municipality's ability to provide adequate wastewater treatment services to the Hawston area and surrounding communities.

A key objective of the IDP is to ensure sustainable and reliable municipal service delivery through the planning, upgrading and maintenance of bulk infrastructure. The proposed development directly contributes to this objective by improving the capacity, efficiency and long-term operational sustainability of an existing municipal wastewater treatment facility. The upgrade is intended to accommodate projected population growth and associated increases in wastewater volumes while improving treatment performance and compliance with applicable environmental and water quality standards.

The proposed development furthermore represents the optimisation and expansion of existing municipal infrastructure within an established service footprint rather than the establishment of a new facility on a greenfield site. The project therefore promotes the efficient utilisation of existing public infrastructure and municipal assets, which is consistent with the principles of sustainable infrastructure planning promoted through the IDP.

The IDP also recognises the importance of environmental sustainability and responsible management of natural resources. The proposed upgrade will incorporate improved wastewater treatment processes and associated infrastructure aimed at enhancing effluent quality and supporting compliance with applicable water resource management requirements. Specialist investigations relating to biodiversity, wetlands and aquatic resources have been undertaken to identify environmental constraints and inform the design and implementation of appropriate mitigation measures.

In addition, the project supports the municipality's long-term planning objectives by providing essential bulk services needed to support existing residential development and future growth within Hawston. Without the proposed capacity upgrades, the municipality may face increasing pressure on existing wastewater treatment infrastructure, which could affect service delivery and environmental performance. The proposed development therefore contributes towards the creation of resilient and sustainable municipal infrastructure capable of supporting future development within the municipal area.

Accordingly, the proposed expansion of the Hawston WWTW is considered to be consistent with the intent and objectives of the Overstrand Municipality IDP as it:

- Supports the upgrading and expansion of critical municipal infrastructure and services;
- Promotes efficient and sustainable service delivery to existing and future communities;
- Enhances wastewater treatment capacity and operational performance;
- Contributes to environmental protection and improved wastewater management; and
- Supports the municipality's long-term growth and infrastructure planning objectives.

The proposed development is therefore regarded as being in line with the Overstrand Municipality Integrated Development Plan and its objectives relating to sustainable infrastructure provision, environmental management and improved municipal service delivery.

4.3 The Spatial Development Framework of the local municipality.

The proposed expansion and upgrading of the existing Hawston Wastewater Treatment Works (WWTW) is considered to be fully aligned with the spatial vision, objectives and development strategies contained in the Overstrand Municipality Spatial Development Framework (Final - 13 May 2020). The proposed development forms part of the upgrading of existing municipal engineering infrastructure required to support existing and future development within the Hawston/Fisherhaven area and broader Greater Hermanus development node.

The MSDF identifies Greater Hermanus, including Hawston and Fisherhaven, as a Regional Node (Order 1) and notes that Hawston and Fisherhaven are settlements with very high growth potential and high socio-economic needs. The MSDF further identifies the Hawston/Fisherhaven area as a strategic growth area within the Overstrand Municipality where future development and population growth are anticipated.

The MSDF specifically recognises that:

"The waste water treatment works is planned to be upgraded in future."

This statement forms part of the Hawston/Fisherhaven status quo assessment and demonstrates that the upgrading of the WWTW was already contemplated within the Municipality's long-term spatial planning framework.

The proposal is also directly aligned with the MSDF's strategic objective relating to bulk service infrastructure provision, which seeks to:

"Compile a coordinated bulk services supply provision policy which prioritises the implementation of bulk infrastructure based on the municipality spatial development concept and Growth Management Framework."

The MSDF further states that the provision and upgrading of bulk infrastructure and municipal services should be prioritised in areas identified for future growth in order to support sustainable development and future population increases.

Importantly, the MSDF identifies Hawston and Fisherhaven as a municipal growth point and makes provision for significant future residential and mixed-use development in the area. The MSDF notes that:

"Fisherhaven/Hawston collectively form the growth point within the Overstrand Municipality."

and further states that:

"Integrated development providing a balance of mixed land uses and a range of housing types must underpin the future development of the area."

The proposed WWTW upgrade is therefore critical to ensuring that adequate wastewater treatment capacity is available to support the planned growth, residential development, community facilities and economic opportunities envisaged by the MSDF for the Hawston/Fisherhaven area.

The proposal is furthermore consistent with several MSDF strategic objectives, including:

- Ensuring that all settlements are provided with adequate civil services infrastructure.
- Providing sustainable and resilient water and sanitation infrastructure.
- Coordinating bulk infrastructure investment with future development needs and growth management initiatives.
- Supporting sustainable human settlements through the provision of appropriate municipal services.
- Promoting environmentally sustainable development through the protection of environmental resources and implementation of specialist recommendations.

The proposal also supports the MSDF objective that:

"All of the Overstrand's urban and rural settlements are provided with adequate civil services infrastructure"

and that potable water and wastewater infrastructure be managed and expanded in a sustainable manner to accommodate future development demands.

Accordingly, the proposed expansion of the Hawston WWTW is not only consistent with the Overstrand MSDF, but is specifically anticipated and supported by the Municipality's long-term spatial planning strategy. The project represents essential bulk municipal infrastructure required to support the growth objectives, development framework and service delivery priorities identified for the Hawston/Fisherhaven area and Greater Hermanus Regional Node.

4.4. The Environmental Management Framework applicable to the area.

The Department of Forestry, Fisheries, and the Environment (DFFE) Screening Tool found no intersections with Environmental Management Framework (EMF) areas.

5. Explain how comments from the relevant authorities and/or specialist(s) with respect to biodiversity have influenced the proposed development.

The findings and recommendations of the biodiversity specialist assessment have directly informed the design, layout, mitigation measures and environmental management requirements for the proposed expansion of the Hawston Wastewater Treatment Works (WWTW). The specialist assessment was commissioned in response to the environmental sensitivities identified by the Screening Tool, including the Animal Species Theme, Plant Species Theme and Terrestrial Biodiversity Theme.

The biodiversity assessment determined that the proposed expansion area is largely situated within a heavily modified environment dominated by invasive alien vegetation, particularly *Acacia cyclops* and *Acacia saligna*, with limited ecological value remaining within the proposed footprint. The assessment concluded that most of the proposed expansion infrastructure would be located within previously disturbed areas, thereby reducing the extent of direct impacts on natural vegetation and sensitive habitats.

The specialist further identified that although the broader area is associated with elevated biodiversity sensitivities, the actual development footprint exhibits substantially lower ecological functionality due to historical disturbance, alien vegetation invasion, wood harvesting and existing municipal infrastructure activities. These findings supported the placement of the proposed expansion adjacent to the existing WWTW and avoided the need to expand into less disturbed natural habitat areas.

In response to the specialist findings, the following design and management measures have been incorporated into the proposed development:

- The expansion footprint has been confined to areas already disturbed or transformed wherever possible in order to minimise impacts on indigenous vegetation and ecological processes.
- Existing drainage systems and ecological linkages associated with the surrounding wetland systems have been retained and accommodated within the engineering design. The specialist emphasised the importance of maintaining drainage canals and managing runoff patterns to prevent impacts on the wetland systems located west of Church Street. These requirements have informed the stormwater design and associated mitigation measures.
- The specialist recommended the implementation of an alien invasive vegetation management programme. Consequently, alien vegetation removal and ongoing management form part of the environmental management requirements for the site.
- Rehabilitation measures have been incorporated to ensure that disturbed areas are re-vegetated following construction. The specialist specifically recommended the use of indigenous grass seed mixes to stabilise exposed soils and reduce erosion risks following construction activities.
- Potential impacts on species of conservation concern were assessed. While the probability of occurrence of threatened plant species within the footprint was considered low, the specialist recommended a pre-construction walk-through survey during the appropriate season to confirm the absence or presence of any conservation-important species. Provision has therefore been made to undertake additional verification where required prior to construction.
- Where protected or threatened plant species are identified within the construction footprint, the specialist recommended rescue, relocation or permitting requirements prior to disturbance. These recommendations have been incorporated into the environmental management framework for the project.
- Specialist recommendations relating to biodiversity protection, vegetation clearing controls, rehabilitation, erosion prevention, waste management, stormwater management and ecological monitoring have been incorporated into the Environmental Management Programme (EMPr).

The biodiversity specialist ultimately concluded that, provided the recommended mitigation measures are implemented, the proposed development would result in a low ecological impact due to the already modified nature of the site and the limited ecological value of much of the proposed development footprint. The specialist findings therefore enabled the optimisation of the site layout and informed the development of appropriate mitigation and management measures aimed at minimising impacts on biodiversity and ecological processes.

Accordingly, the biodiversity specialist assessment has had a direct influence on the proposed development by informing the selection and refinement of the development footprint, guiding stormwater and drainage design considerations, requiring alien vegetation management and rehabilitation measures, identifying biodiversity protection measures for species of conservation concern and informing the mitigation and monitoring measures contained in the EMPr.

6.	Explain how the Western Cape Biodiversity Spatial Plan (including the guidelines in the handbook) has influenced the proposed development.
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The Western Cape Biodiversity Spatial Plan (WCBSP) and its associated handbook have played a significant role in informing the assessment, layout refinement, impact assessment and mitigation measures associated with the proposed expansion of the Hawston Wastewater Treatment Works (WWTW). The WCBSP was used as a key biodiversity planning informant during the specialist biodiversity assessment and site sensitivity verification process to identify Critical Biodiversity Areas (CBAs), Ecological Support Areas (ESAs), ecological corridors and biodiversity priorities within the broader study area.

The Screening Tool identified the site as having Very High Terrestrial Biodiversity Sensitivity, primarily because portions of the broader study area are associated with biodiversity priority areas identified through provincial and national biodiversity datasets. In accordance with the WCBSP handbook principles, a site-specific verification assessment was undertaken to determine whether the mapped sensitivity reflected actual on-site conditions.

The biodiversity specialist assessed the condition of the vegetation and habitats within the development footprint and found that the proposed expansion area is largely situated within a heavily modified environment dominated by invasive alien vegetation, historical disturbance and existing infrastructure. The specialist concluded that the ecological condition of the

footprint differs significantly from the broader biodiversity planning unit and that much of the area has limited biodiversity functionality.

In keeping with the precautionary and avoidance principles promoted in the WCBSP handbook, the proposed development has been confined to the already transformed area adjacent to the existing WWTW rather than expanding into less disturbed areas of natural habitat. This approach minimises habitat loss and reduces impacts on biodiversity features identified within the broader landscape.

The WCBSP also emphasises the protection of ecological processes, ecological corridors and aquatic systems. Consequently, the biodiversity and wetland specialists considered the relationship between the proposed expansion area and the surrounding wetland systems, drainage pathways and ecological linkages. The findings informed the stormwater management design, runoff control measures and wetland protection measures that have been incorporated into the project design.

The biodiversity specialist further applied WCBSP principles by:

- Identifying areas where impacts could be avoided or minimised through the use of already disturbed portions of the site.
- Recommending the retention and management of ecological linkages and drainage systems associated with the adjacent wetland environment.
- Requiring rehabilitation of disturbed areas following construction using indigenous vegetation.
- Requiring removal and management of invasive alien vegetation, which is a key biodiversity management objective identified within both the biodiversity assessment and the broader environmental planning framework of the Overstrand Municipality.
- Recommending additional seasonal verification where necessary to confirm the presence or absence of plant species of conservation concern.

The proposal is also aligned with the broader biodiversity planning objectives of the Overstrand Municipal Spatial Development Framework (MSDF), which incorporates the Western Cape Biodiversity Spatial Plan and identifies the protection of Critical Biodiversity Areas, ecological corridors, wetlands and ecological support areas as key planning principles. The OMSDF specifically promotes the protection of biodiversity resources, ecological corridors and ecological support systems while directing development towards already transformed and serviced areas.

Importantly, the biodiversity specialist concluded that although the larger study area contains biodiversity features that contribute to provincial conservation objectives, the proposed development footprint itself is already significantly transformed and therefore does not compromise the overall biodiversity objectives of the WCBSP provided that the recommended mitigation measures are implemented.

Accordingly, the Western Cape Biodiversity Spatial Plan influenced the proposed development by:

- Guiding the identification and assessment of biodiversity-sensitive features within the broader study area;
- Informing the site-specific verification of biodiversity sensitivities identified by the Screening Tool;
- Supporting the avoidance of less disturbed natural habitat through the use of an already modified development footprint;
- Informing the protection of adjacent ecological processes, drainage features and wetland systems;
- Requiring rehabilitation and alien vegetation management measures; and
- Ensuring that biodiversity considerations are integrated into the project design, impact assessment and Environmental Management Programme (EMPr).

The proposed development is therefore considered consistent with the intent and conservation planning objectives of the Western Cape Biodiversity Spatial Plan and its associated guidelines, while balancing the need for essential municipal service infrastructure with the protection of biodiversity resources.

7.	Explain how the proposed development is in line with the intention/purpose of the relevant zones as defined in the ICMA.
N/A	
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.
N/A	
9.	Explain how the proposed development will optimise vacant land available within an urban area.
N/A	
10.	Explain how the proposed development will optimise the use of existing resources and infrastructure.

The proposed development has been specifically designed to optimise the use of existing municipal infrastructure, services and resources through the upgrading and expansion of the existing Hawston Wastewater Treatment Works (WWTW), rather than the development of a new wastewater treatment facility at an alternative location. The proposal therefore represents the consolidation and enhancement of existing municipal infrastructure investment and is consistent with the principles of sustainable infrastructure planning.

The proposed expansion will be undertaken adjacent to and integrated with the existing Hawston WWTW, enabling the continued use of established municipal infrastructure, including the existing wastewater reticulation network, treated effluent discharge infrastructure, electrical reticulation systems, access roads and operational support infrastructure already serving the facility. By expanding an existing operational facility, the need for the development of duplicate bulk infrastructure elsewhere is avoided.

The Detailed Design Report indicates that the proposed works have been planned to integrate with the existing treatment processes while optimising the use of available land within and adjacent to the existing WWTW footprint. The project includes the optimisation of existing treatment infrastructure, including modifications to the existing biological reactor and the utilisation of areas already associated with wastewater treatment activities.

The proposal will further optimise the use of existing municipal service networks by making use of:

- The existing sewer reticulation network serving Hawston and surrounding areas.
- Existing municipal access routes and service corridors.
- Existing bulk electrical infrastructure and the existing substation, which will be assessed and upgraded where necessary to accommodate future demand.
- Existing wastewater treatment infrastructure and operational systems, which will be integrated with the new treatment components.
- Existing municipal land already utilised for wastewater treatment purposes and municipal service delivery.

The development also promotes the efficient use of financial resources by extending the operational lifespan and capacity of existing municipal assets rather than requiring the acquisition of a new site and the construction of entirely new bulk infrastructure. This approach aligns with the Overstrand Municipal Spatial Development Framework, which encourages the upgrading and prioritisation of bulk infrastructure in areas identified for future growth and development.

The upgraded facility will accommodate increased wastewater treatment demands associated with existing and future development within the Hawston and Fisherhaven area, which has been identified in the Overstrand MSDF as a strategic growth area. The provision of additional treatment capacity within the existing WWTW footprint therefore supports future development while maximising the use of established municipal infrastructure and service investments.

From an environmental perspective, the proposal also optimises land resources by locating the majority of the expansion within an already disturbed and transformed area associated with the existing WWTW. The biodiversity assessment concluded that much of the proposed footprint occurs within modified habitat dominated by invasive alien vegetation, thereby limiting the need to disturb additional natural habitat.

The proposed development therefore optimises existing resources and infrastructure through:

- The expansion of an existing WWTW rather than the establishment of a new facility.
- The continued utilisation of existing municipal land, infrastructure and service networks.
- The upgrading and optimisation of existing wastewater treatment infrastructure and processes.
- The efficient use of existing bulk electrical, road and utility infrastructure.
- The avoidance of unnecessary infrastructure duplication and associated environmental impacts.
- The utilisation of a previously disturbed development footprint, thereby limiting impacts on natural resources.

Accordingly, the proposed expansion of the Hawston WWTW represents an efficient and sustainable use of existing municipal resources and infrastructure while supporting the long-term wastewater treatment requirements of the Overstrand Municipality.

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 – The proposed development constitutes the upgrade and expansion of an existing municipal wastewater treatment facility and is therefore located within an established municipal service precinct that is already connected to the necessary supporting infrastructure networks. The proposal is specifically intended to address existing and future wastewater treatment requirements within the Hawston/Fisherhaven service area through the provision of additional treatment capacity.	
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.
	The concept of “need and desirability” relates to, amongst others, the nature, scale, and location of the proposed activities, as well as the use of land. While essentially, the concept of “need and desirability” can be explained in terms of the general meaning of its two components in which need primarily refers to time and desirability to place (i.e., is this the right time and is it the right place for locating the type of land-use/activity being proposed?), “need and desirability” are interrelated, and the two components must be considered collectively in an integrated and holistic manner.² The proposed expansion of the Hawston Wastewater Treatment Works (WWTW) is considered both necessary and desirable when assessed against the principles contained in DEA&DP’s <i>Guideline on Need and Desirability (March 2013)</i>. Need (Why is the activity required at this time?) The existing Hawston WWTW was designed to accommodate an Average Dry Weather Flow (ADWF) of approximately 1.0 Ml/day and requires upgrading to provide additional treatment capacity and improve treatment performance to meet current and future wastewater management requirements. The proposed development will provide additional treatment capacity and ensure that wastewater infrastructure keeps pace with existing and anticipated growth within the Hawston and Fisherhaven service area. Failure to expand the facility could place increasing pressure on existing wastewater treatment infrastructure and compromise the Municipality’s ability to provide sustainable wastewater services. The need for the upgrading of the Hawston WWTW is further recognised in the Overstrand Municipal Spatial Development Framework (MSDF), which identifies Hawston and Fisherhaven as a strategic growth area and specifically records that the Hawston WWTW is planned for future upgrading to support long-term development and service delivery requirements. Desirability (Why is this the appropriate location?) The proposed development is located adjacent to and integrated with the existing Hawston WWTW and therefore constitutes the expansion of an existing municipal infrastructure facility rather than the development of a new facility on an undeveloped site. The proposal makes use of existing municipal land, service connections, access infrastructure and operational systems already associated with wastewater treatment activities. This reduces the need for additional bulk infrastructure, limits environmental disturbance and represents an efficient use of existing public resources. From a land use planning perspective, the site is already utilised for municipal wastewater treatment purposes and is zoned for Authority Usage. The proposed activity is therefore compatible with both the existing land use rights and the surrounding municipal infrastructure function of the site. Furthermore, specialist investigations confirmed that the proposed expansion area largely comprises previously disturbed and modified land characterised by invasive alien vegetation and historical transformation. By locating the expansion within an already transformed area adjacent to the existing facility, impacts on natural habitat and ecological processes are minimised. Integrated Assessment of Need and Desirability The proposal represents the upgrading of critical municipal infrastructure required to support existing and planned development within the Hawston/Fisherhaven growth area. The activity is required at this time to address wastewater treatment capacity constraints and improve service delivery, while the chosen location is appropriate because it expands an existing municipal facility within an established infrastructure footprint and on land already designated for municipal service purposes. The proposal is therefore considered both necessary and desirable in terms of the DEA&DP Guideline on Need and Desirability (March 2013) and aligns with municipal spatial planning, infrastructure planning and environmental management objectives.

² Source: EIA Guidelines and Information Document Series: Guideline on Need and Desirability (March 2013).

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.

NA

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

The PPP will be undertaken as per the requirements of the EIA Regulations 2014, as amended. Additionally, the PPP adheres to the DEA&DP's Guideline on Public Participation (March 2013).

Site Notice:

The Site Notice, providing information on the proposed development, will be erected on site, inviting members of the public to register as an Interested and Affected Party (I&AP) - [Proof to be included in Appendix F].

Draft BAR Notification:

I&APs / key stakeholders will be given the opportunity to comment on this Draft Basic Assessment Report (BAR) and the EMPr. The following parties will be notified of the BA Process and the availability of this Draft BAR and the EMPr for review and comment:

- Organs of State (as indicated in the section below);
- Local and District Municipalities;
- Adjacent landowners; and
- Ward Councillor of the area.

In addition to this:

- A newspaper advertisement will be published in the Hermanus Times Newspaper.
- The Draft BAR and EMPr will be available for a 30-day comment period in hard copy at the Hawston Public Library (located at 02 Church Street Hawston 7202) and on the EAP's website for review and comment.
- A WULA will be undertaken for the proposed development in terms of the NWA and GN R267 due to the proposed upgrades affecting water resources. The area is managed by the Breede-Olifants Catchment Management Agency with the Department of Water and Sanitation (DWS) serving as the competent authority. A 60-day comment period applies to the WULA. The details of the water uses are summarized in the WULA Summary Report which will also be made available in hard copy at the Hawston Public Library (located at 02 Church Street Hawston 7202) and on the EAP's website for review and comment.
- I&APs / key stakeholders were given the opportunity to review and comment on this Draft BAR for a period of 30 days.³
- All written comments received on the Draft BAR will be recorded and responded to in a "Comments and Responses Report", which will be attached (along with the original comments received) to the Final BAR in Appendix F and will be submitted to the DEA&DP for their decision-making (within the legislated timeframe).

Proof of compliance will be attached as Appendix F of the Final BAR.

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

The following Organs of State will be notified of the availability of the Draft BAR for comment:

- CapeNature;
- DEA&DP: Development Management (Region 2);
- DEA&DP: Pollution and Chemicals Management;
- DEA&DP: Waste Management;
- Department of Water and Sanitation;

³ Note 60 days commenting period is provided for any comments of the Water Use Application.

- Heritage Western Cape;
- Overstrand Municipality.

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

NA

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

The BAR is still being circulated to Organs of State and State Departments. Once consulted Organs of State and State Departments have provided their comments it will be collated and responded to in the comments and responses report included in Appendix F to be attached to the Final BAR.

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.

Refer above. Comment on the NOI from the Department is captured in Appendix F.

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.		
NA			
1.3.	Indicate above which aquifer your proposed development will be located and explain how this has influenced your proposed development.		
The development site is located above a major fractured aquifer with a yield ranging between 0.5 – 2.0 l/s⁴. The classification as a major fractured aquifer indicates that the aquifer is considered regionally significant and capable of supplying useful quantities of groundwater. A mapped yield of 0.5–2.0 l/s means that a properly constructed borehole in the area could potentially yield between approximately: • 43 m³/day (0.5 l/s); and • 173 m³/day (2.0 l/s) under suitable conditions. Refer to Figure 1 below.			

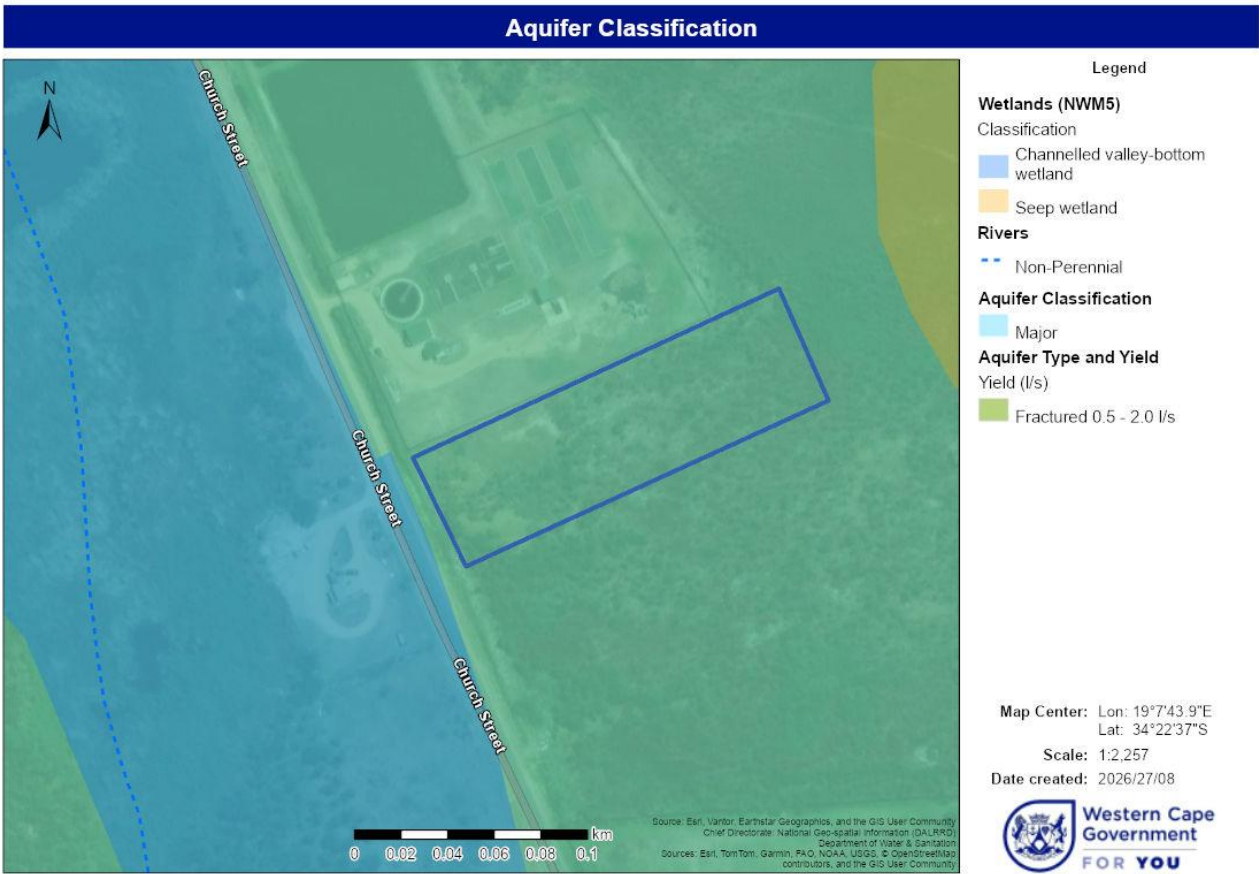


Figure 1: Aquifer Classification, Yield and Type. Source: CapeFarmMapper, 27/08/2026, <https://gis.elsenburg.com/apps/cfm/>.

The facility is located within the strategic groundwater resource area of the Overberg Region. Refer to Figure 2 below.

⁴ Aquifer Classification, Type, and Yield sourced from CapeFarmMapper, 27/08/2026, <https://gis.elsenburg.com/apps/cfm/>.





Figure 3: Depth to groundwater. Source: CapeFarmMapper, 23/10/2024, <https://gis.elsenburg.com/apps/cfm/>.

Groundwater in the vicinity of the proposed development is estimated to occur at an average depth of approximately 11.81 m below ground level (mbgl). The relatively deep groundwater table reduces the likelihood of direct interaction between construction activities and groundwater during the installation of the proposed infrastructure, as the anticipated excavation depths associated with the proposed works are substantially shallower than the mapped groundwater depth. The heritage assessment indicates that the maximum excavation depth associated with the proposed development is approximately 5 m below ground level, which is significantly above the mapped groundwater level.

The presence of a major fractured aquifer and the strategic groundwater resource area has nevertheless influenced the design and environmental management approach adopted for the project. In particular:

- The proposed development is located adjacent to an existing operational wastewater treatment facility and makes use of an existing municipal services site, thereby avoiding the establishment of a new facility within a previously undisturbed area.
- The project design incorporates engineered wastewater treatment infrastructure, pipelines, sludge handling facilities, stormwater controls and chemical storage systems intended to minimise the potential for seepage or contamination of underlying groundwater resources.
- Groundwater protection measures, including spill prevention, containment of hazardous substances, wastewater infrastructure maintenance, stormwater management and waste management controls, will be implemented through the EMPr to reduce the risk of groundwater contamination.
- The development does not require groundwater abstraction and is therefore not anticipated to affect groundwater availability within the aquifer.

Given the estimated groundwater depth of approximately 11.81 mbgl and the engineered nature of the proposed wastewater treatment infrastructure, the underlying aquifer has primarily influenced the development through the adoption of precautionary groundwater protection measures rather than through constraints on the location of the proposed infrastructure. Provided that the recommended mitigation and management measures are implemented, significant impacts on groundwater resources are not anticipated.

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.		

BioAssets CC	
2.3.	Explain how the presence of watercourse(s) and/or wetlands on the property(ies) has influenced your proposed development.

The specialist assessment identified two natural seepage wetlands, namely **H1_HSS1** and **H3_HSS2**, in close proximity to the proposed development area. These wetlands contribute to the broader wetland system located west of Church Street and ultimately form part of the downstream aquatic environment. An artificial wetland feature associated with historical disturbance was also identified within the study area. The specialist confirmed that the natural wetlands occur outside of the proposed development footprint but are sufficiently close to warrant consideration during project planning and design.



Figure 4: Wetland Delineation. (Source: Wetland Assessment, Bioassets CC, 2026)



Figure 5: Wetland Delineation and 32m buffer. (Source: Wetland Assessment, Bioassets CC, 2026)

The location of these wetland systems influenced the proposed development in several ways:

- The proposed expansion footprint was planned so as to avoid direct encroachment into the delineated natural wetlands wherever possible.
- The engineering design was informed by the need to maintain existing drainage pathways and hydrological connectivity associated with the surrounding wetland systems. The specialist emphasised the importance of maintaining water supply to downstream wetlands and preventing disruption of natural flow patterns.
- Stormwater infrastructure has been designed to manage runoff generated by the expanded facility and to prevent uncontrolled discharge into adjacent aquatic environments. The specialist specifically recommended that stormwater outlet structures be designed to mimic natural sheet flow conditions and avoid concentrated discharges that could result in erosion or degradation of downstream wetland habitats.
- The project design incorporates measures to protect water quality through the management of wastewater infrastructure, stormwater runoff and construction-related activities. This approach seeks to minimise the potential for contamination of nearby wetlands and associated aquatic resources.
- The specialist assessment identified the need for rehabilitation and protection of existing wetland functions and recommended that erosion protection measures, stormwater controls and wetland buffer considerations be incorporated into site planning and environmental management measures.

The wetland specialist concluded that the identified wetlands exhibit relatively low ecological importance and sensitivity and that the proposed development can be supported from an aquatic perspective, provided that the recommended mitigation measures and design controls are implemented. The assessment further concluded that impacts on the wetlands are expected to be minimal and can be mitigated to acceptable levels through appropriate construction and operational management.

Accordingly, the presence of nearby wetlands has influenced the proposed development through the avoidance of direct wetland impacts, incorporation of stormwater and erosion control measures, protection of hydrological processes and inclusion of specialist mitigation measures within the Environmental Management Programme (EMPr). These measures have been informed by the findings and recommendations contained in the Wetland Assessment Report (Appendix G2).

Furthermore, an MMP has been compiled for adoption to mitigate the impact to the watercourse particularly during the operational phase as maintenance may be required in future. Refer to the MMP included as **Appendix H2**.

3. Coastal Environment

3.1.	Was a specialist study conducted?	YES	NO
3.2.	Provide the name and/or company who conducted the specialist study.		
3.3.	Explain how the relevant considerations of Section 63 of the ICMA were taken into account and explain how this influenced your proposed development.		
3.4.	Explain how estuary management plans (if applicable) has influenced the proposed development.		
3.5.	Explain how the modelled coastal risk zones, the coastal protection zone, littoral active zone and estuarine functional zones, have influenced the proposed development.		

4. Biodiversity

4.1.	Were specialist studies conducted?	YES	NO
4.2.	Provide the name and/or company who conducted the specialist studies.		
BioAssets CC			
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.		

A range of systematic conservation planning tools and biodiversity informants were utilised during the biodiversity assessment (Appendix G1) to identify biodiversity constraints, ecological priorities and sensitive environmental features within the study area. These biodiversity informants formed part of both the desktop assessment and the site sensitivity verification process and assisted in evaluating the suitability of the proposed expansion area.

The biodiversity assessment considered information from, amongst others:

- The National Web-Based Environmental Screening Tool.
- Critical Biodiversity Area (CBA) mapping and biodiversity planning datasets.
- National and provincial vegetation mapping.
- SANBI biodiversity databases and conservation planning information.
- Species of Conservation Concern (SCC) records and Red List species information.
- iNaturalist species occurrence records and recent biodiversity observations.
- National biodiversity sensitivity information reflected through the Screening Tool outputs.

The Screening Tool identified the site as having:

- High Animal Species Theme Sensitivity;
- Medium Plant Species Theme Sensitivity; and
- Very High Terrestrial Biodiversity Theme Sensitivity.

These environmental sensitivities necessitated the undertaking of a specialist biodiversity assessment and site sensitivity verification. The biodiversity specialist subsequently evaluated the actual ecological condition of the site and compared it with the mapped sensitivities identified through the conservation planning datasets.

The biodiversity assessment found that although the broader study area is associated with biodiversity priority areas, the proposed development footprint itself is largely situated within a heavily modified environment characterised by invasive alien vegetation, historical disturbance and existing infrastructure-related impacts. The specialist noted that *Acacia cyclops* and *Acacia saligna* dominate the proposed expansion area and that much of the footprint no longer exhibits the ecological condition typically associated with undisturbed biodiversity priority areas.

The conservation planning informants influenced the proposed development in the following ways:

- The biodiversity sensitivities identified through the Screening Tool triggered the requirement for specialist assessment and site verification.
- The development footprint was assessed against mapped biodiversity priorities to identify opportunities to avoid more sensitive habitat areas.
- Site-specific verification was undertaken to determine whether the mapped biodiversity sensitivity accurately reflected the ecological condition of the proposed footprint.
- The proposed expansion area was selected within an already disturbed and transformed area adjacent to the existing WWTW, thereby reducing impacts on biodiversity features identified through conservation planning datasets.
- Recommendations were made for the removal and management of invasive alien vegetation and the rehabilitation of disturbed areas using indigenous species.
- Additional precautionary measures were incorporated to address the potential occurrence of plant species of conservation concern, including recommendations for seasonal verification surveys and rescue or relocation where necessary.
- The protection of adjacent ecological processes, wetlands and drainage systems was incorporated into the design and environmental management measures.

The specialist ultimately concluded that while the broader study area may contain biodiversity features of conservation importance, the proposed development footprint itself is substantially modified and that, with the implementation of the recommended mitigation measures, the proposed development would result in a low ecological impact. The findings of the biodiversity assessment therefore informed the refinement of the development footprint, mitigation measures and Environmental Management Programme (EMPr).

Accordingly, systematic conservation planning tools and biodiversity informants were used to identify biodiversity sensitivities, verify site conditions, guide the location of the proposed development, avoid more sensitive habitat where practicable, and develop mitigation measures aimed at protecting biodiversity and ecological processes during both construction and operation.

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.
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The Western Cape Biodiversity Spatial Plan (WCBSP) and associated biodiversity management guidelines were used during the biodiversity assessment (Appendix G1) to identify biodiversity priority areas, ecological support areas, Critical Biodiversity Areas (CBAs), threatened ecosystems and species of conservation concern within the study area. These biodiversity informants were used as part of the desktop assessment and subsequent site sensitivity verification process to determine the ecological importance of the site and to guide decision-making regarding the proposed expansion footprint.

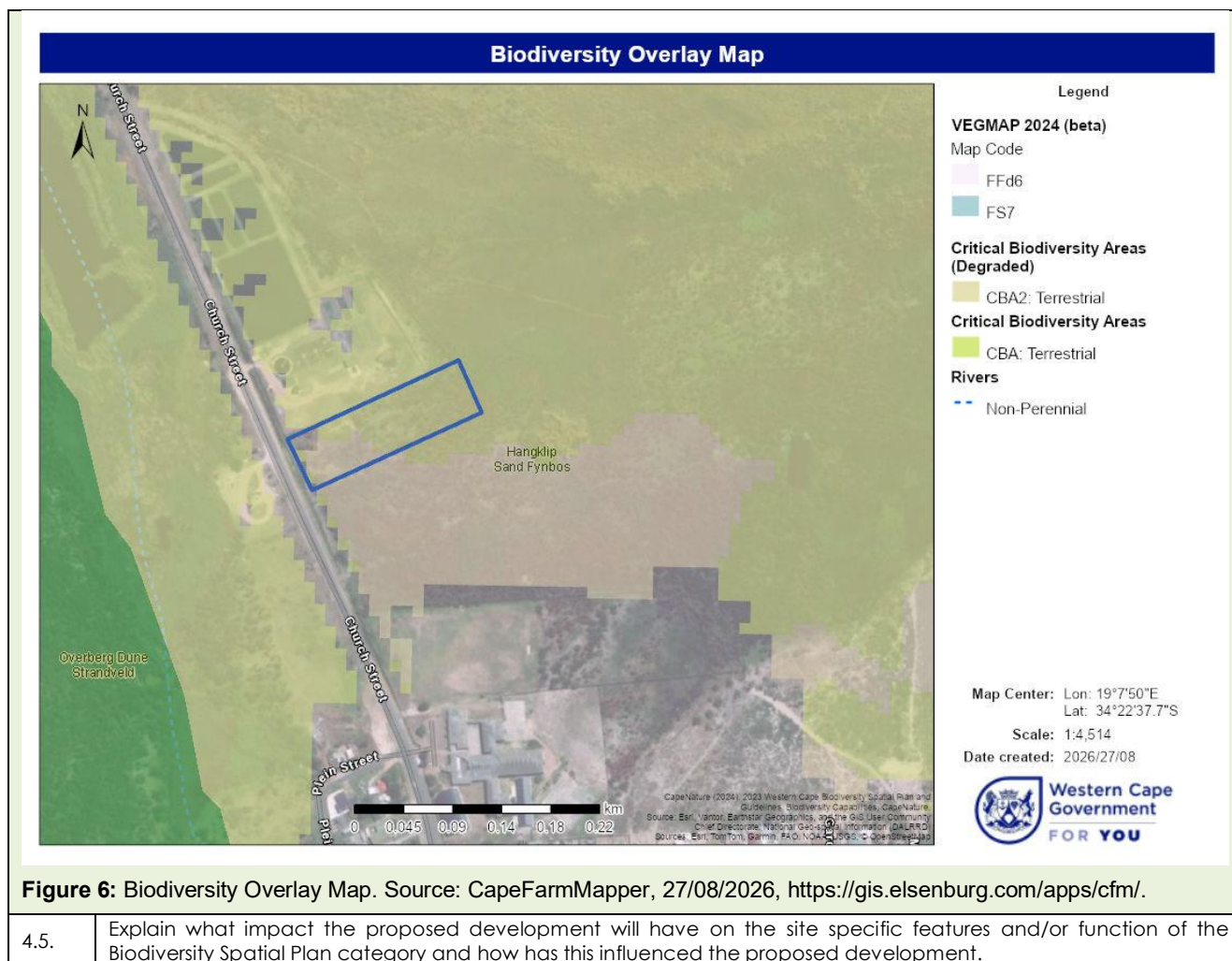
One of the key objectives of the Biodiversity Spatial Plan is to avoid or minimise impacts on biodiversity priority areas and ecological processes, while directing development towards areas that have already been transformed or degraded. The biodiversity assessment considered these objectives and found that the proposed expansion area is largely located within a severely modified environment dominated by invasive alien vegetation, historical disturbance and existing wastewater treatment activities. The assessment concluded that the ecological condition of the proposed development footprint differs substantially from the broader biodiversity priority area reflected in the biodiversity planning datasets.

The Biodiversity Spatial Plan influenced the proposed development in the following ways:

- The location of the proposed expansion was assessed in relation to mapped biodiversity sensitivities and conservation priorities identified through the Screening Tool and biodiversity planning datasets.
- The proposed development footprint was confined, as far as practicable, to already disturbed areas adjacent to the existing Hawston WWTW in accordance with the Biodiversity Spatial Plan principle of avoiding impacts on intact natural habitat.
- Site sensitivity verification was undertaken to determine whether the mapped biodiversity sensitivities accurately reflected on-site conditions, as required by the environmental screening protocols.
- The assessment considered species of conservation concern identified through biodiversity planning datasets and recommended precautionary measures, including seasonal verification surveys where required and appropriate management actions should any protected species be recorded within the development footprint.
- Biodiversity management guidelines promoting the rehabilitation of disturbed areas and the control of invasive alien vegetation informed the specialist recommendations. The assessment specifically recommends the removal and management of invasive alien vegetation and the rehabilitation of disturbed areas using indigenous species.
- The Biodiversity Spatial Plan objective of maintaining ecological processes and connectivity influenced the consideration of adjacent wetlands, drainage systems and ecological linkages, resulting in recommendations to protect hydrological processes and manage runoff from the expanded facility.

The biodiversity specialist concluded that, although the broader study area forms part of a biodiversity planning area and includes mapped biodiversity priorities, the proposed footprint itself is already significantly transformed and therefore does not compromise the overall conservation objectives of the Biodiversity Spatial Plan, provided that the recommended mitigation and rehabilitation measures are implemented.

The objectives and management guidelines of the Biodiversity Spatial Plan therefore influenced the proposed development by promoting avoidance of more sensitive habitat, directing development towards an already modified area, requiring the control of invasive alien vegetation, supporting rehabilitation of disturbed areas and ensuring that ecological processes associated with surrounding biodiversity features are protected. These considerations have been incorporated into the project design, impact assessment and Environmental Management Programme (EMPr).



The biodiversity assessment (Appendix G1) confirmed that the broader study area falls within a biodiversity planning area associated with Critical Biodiversity Areas (CBAs) and biodiversity sensitivity mapping identified through provincial and national conservation planning tools. However, the assessment determined that the proposed development footprint itself is largely located within a severely modified environment characterised by invasive alien vegetation, historical disturbance, previous clearing activities and existing wastewater treatment infrastructure.

The primary biodiversity function of the Biodiversity Spatial Plan category in the broader area is to support ecological processes, maintain habitat connectivity, conserve biodiversity pattern and protect ecosystem functioning. The biodiversity specialist found that the current ecological functioning of the proposed expansion footprint has already been substantially compromised through previous transformation and domination by *Acacia cyclops* and *Acacia saligna*. As a result, the footprint contributes only limited biodiversity value when compared to more intact portions of the broader biodiversity planning unit.

Consequently, the proposed development is not expected to result in significant loss of intact habitat or materially compromise the broader conservation objectives of the Biodiversity Spatial Plan, provided that the mitigation measures recommended by the specialist are implemented. The anticipated impacts are primarily associated with the loss of modified vegetation, limited disturbance to fauna utilising the site, and temporary construction-related impacts. The specialist concluded that these impacts would be low and localised in extent.

The Biodiversity Spatial Plan category nevertheless influenced the proposed development and assessment process in several important ways:

- The mapped biodiversity sensitivity triggered the requirement for a specialist biodiversity assessment and formal site sensitivity verification.
- The development footprint was evaluated to determine whether infrastructure could be accommodated within already disturbed portions of the site rather than extending into less disturbed habitat. The proposed expansion area was consequently focused within the modified area adjoining the existing WWTW.
- The assessment considered the potential presence of species of conservation concern and recommended precautionary measures, including seasonal verification surveys where necessary and the rescue or relocation of protected flora should specimens be identified within the construction footprint.
- Biodiversity management objectives relating to alien invasive plant control have been incorporated into the recommended mitigation measures. The specialist specifically recommends the removal and ongoing management of invasive alien vegetation within the project area.
- The protection of adjacent ecological processes, including drainage systems and wetland-related ecological functioning, has been incorporated into the engineering design and environmental management measures.
- Rehabilitation measures have been recommended for disturbed areas to improve ecological functioning following construction and to reduce the long-term footprint of the development.

The biodiversity specialist concluded that, although the broader study area is associated with biodiversity planning priorities, the proposed development footprint is already significantly transformed and therefore does not materially undermine the ecological objectives of the Biodiversity Spatial Plan. The influence of the Biodiversity Spatial Plan has therefore been reflected through the specialist assessment process, site selection within disturbed areas, implementation of avoidance and mitigation measures, alien vegetation management and rehabilitation requirements incorporated into the Environmental Management Programme (EMPr).

Accordingly, the proposed development is expected to have a **low impact on the site-specific features and ecological functions associated with the Biodiversity Spatial Plan category**, while the objectives and management guidelines of the Biodiversity Spatial Plan have directly informed the location, design and mitigation measures proposed for the project.

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

The presence of fauna on and adjacent to the proposed development site was assessed as part of the Biodiversity Assessment (Appendix G1). The assessment considered species identified through the Environmental Screening Tool, available biodiversity databases, habitat suitability assessments and field observations undertaken during the site investigations.

The biodiversity assessment found that the proposed expansion area is largely characterised by disturbed habitat dominated by invasive alien vegetation, historical transformation, wood harvesting activities and the existing wastewater treatment works. As a result, the site provides relatively limited habitat for fauna and supports lower ecological functionality than would typically be expected within the broader biodiversity planning area.

The specialist recorded limited animal activity during the site visits and noted that the proposed development area is primarily utilised by common and adaptable species. Evidence of mole-rat activity and rodent burrows was observed, while bird activity within the expansion footprint was found to be limited. The assessment concluded that animals occurring within the footprint area would generally be able to relocate to surrounding habitat once construction activities commence.

The assessment also considered species of conservation concern identified through the Screening Tool, including various bird species. However, the specialist concluded that the modified nature of the site, the dominance of alien vegetation, proximity to existing urban development, ongoing human disturbance and limited availability of suitable habitat significantly reduce the likelihood of these species being dependent on the proposed development area.

One notable observation was the use of the existing sludge drying beds by Hartlaub's Gulls for daytime foraging and roosting. The specialist concluded that although these birds may be temporarily disturbed during construction activities, the impacts are likely to be localised and temporary, and the birds are expected to return during the operational phase once construction activities have ceased.

The presence of fauna influenced the proposed development in the following ways:

- The biodiversity assessment informed the placement of new infrastructure within an already modified and disturbed portion of the site to minimise habitat loss and disturbance to fauna.
- Measures have been incorporated to minimise unnecessary vegetation clearing and disturbance beyond the approved footprint.
- Construction activities will be managed to reduce disturbance to fauna and to allow animals the opportunity to move away from active work areas.
- Recommendations for alien invasive vegetation management and rehabilitation of disturbed areas were included to improve habitat quality over the longer term.
- Biodiversity mitigation measures have been incorporated into the Environmental Management Programme (EMPr) to manage impacts on fauna during both the construction and operational phases.

The biodiversity specialist concluded that, due to the disturbed condition of the site and the limited utilisation of the footprint by fauna species, the proposed development is expected to result in a **low impact on animal species and associated habitat**, provided that the recommended mitigation measures are implemented. The assessment therefore influenced the design and management of the project by ensuring that disturbance to fauna and habitat is minimised and that ecological recovery of disturbed areas is promoted where feasible.

5. Geographical Aspects

Explain whether any geographical aspects will be affected and how has this influenced the proposed activity or development.

The geographical characteristics of the site, including the underlying geology, soils and land type, were considered during the planning and design of the proposed expansion of the Hawston Wastewater Treatment Works (WWTW).

The site is underlain by recent coastal sands and dunes, with limited occurrences of Bokkeveld Group shale and Table Mountain Group sandstone. The dominant land type is classified as Hb27, comprising grey regic sands and other soils, while the mapped soil form (ED) is described as greyish, sandy, excessively drained soils with limited pedological development, a depth exceeding 750 mm and a clay content of less than 15%. These characteristics indicate that the site generally consists of deep, sandy, well-drained soils with relatively low structural limitations for construction activities.

The presence of these sandy soils influenced the proposed development in several ways:

- The proposed expansion has been located adjacent to the existing WWTW within an area already associated with municipal infrastructure and historical disturbance, thereby limiting the extent of additional disturbance to surrounding land.
- The highly permeable and excessively drained nature of the sandy soils requires careful management of stormwater runoff, wastewater infrastructure and chemical handling facilities to minimise the potential for seepage into surrounding soils and the underlying groundwater resource.
- The engineering design incorporates impermeable treatment structures, contained process infrastructure and stormwater management measures to reduce the risk of soil and groundwater contamination during operation.
- Due to the relatively loose and sandy nature of the soils, erosion and sediment control measures will be required during the construction phase, particularly in areas where vegetation clearing and excavation activities are undertaken.
- Rehabilitation measures have been incorporated into the project to stabilise disturbed areas following construction and reduce the potential for wind and water erosion.

The geographical setting has therefore not resulted in a fatal constraint to the proposed development but has informed several engineering and environmental management considerations, particularly in relation to stormwater management, erosion control, protection of groundwater resources and rehabilitation of disturbed areas. The site characteristics are considered suitable for the proposed land use, particularly given that the development constitutes the expansion of an existing wastewater treatment facility within an already developed municipal infrastructure footprint.

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.		
CTS Heritage			
6.3.	Explain how areas that contain sensitive heritage resources have influenced the proposed development.		

A heritage screening assessment was undertaken by CTS Heritage (Appendix N) to determine whether any significant archaeological, cultural, palaeontological or historical heritage resources occur within or adjacent to the proposed development area and to assess whether such resources would influence the proposed expansion of the Hawston Wastewater Treatment Works (WWTW).

The Heritage Screener found that, although the broader Hawston area contains a rich cultural and archaeological history and various heritage resources associated with the historic development of the town, the proposed development area is located outside the historic core of Hawston and constitutes an expansion of an existing wastewater treatment facility situated within an established municipal infrastructure area. The assessment concluded that the proposed development is unlikely to negatively affect the heritage significance of Hawston or any known heritage resources in the area.

The heritage assessment considered the broader heritage landscape surrounding Hawston, including archaeological sites, historical settlement patterns, cultural landscapes and palaeontological sensitivity. While the Overstrand Heritage Survey identifies heritage resources within the broader Hawston area, the Heritage Screener concluded that the proposed development area does not contain features of such significance that would constrain the proposed expansion.

The assessment further found that the development area is underlain primarily by Quaternary sands and is located within an area of low to negligible palaeontological sensitivity.

As a result of these findings:

- No redesign or relocation of the proposed development footprint was required on heritage grounds.
- No additional heritage specialist investigations were recommended by the Heritage Screener.
- The expansion could proceed within the proposed footprint without impacting identified heritage resources.
- The development remains confined to an area already associated with existing wastewater treatment infrastructure, thereby avoiding impacts on recognised heritage features within the wider Hawston area.

The findings of the Heritage Screener were subsequently confirmed through the Heritage Western Cape (HWC) Notification of Intent to Develop process. Heritage Western Cape advised that there is no reason to believe that the proposed expansion of the existing Hawston WWTW will impact heritage resources and confirmed that **no further action in terms of Section 38 of the National Heritage Resources Act is required**. Heritage Western Cape nevertheless required that Chance Finds and Accidental Finds Procedures be incorporated into the Environmental Management Programme (EMPr) and Environmental Authorisation.

Accordingly, areas containing sensitive heritage resources did not impose any material constraints on the proposed development. The Heritage Screener confirmed that the proposed development area does not contain significant heritage resources that would necessitate avoidance, redesign or additional specialist investigation. The principal influence of the heritage assessment on the proposed development has therefore been the incorporation of Chance Finds Procedures into the EMPr to ensure that any previously unidentified archaeological, palaeontological or cultural heritage material encountered during construction is appropriately managed.

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.

Refer to 6.3 above.

8. Socio/Economic Aspects

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

The proposed development is located on the outskirts of Hawston within the Overstrand Local Municipality. Hawston is an established coastal settlement situated approximately 11 km west of Hermanus and forms part of the Greater Hermanus regional node identified in the Overstrand Municipal Spatial Development Framework (MSDF). The neighbouring settlement of Fisherhaven is located in close proximity to Hawston, and the two settlements are collectively recognised as an important municipal growth area.

Historically, Hawston developed as a fishing village and remains closely associated with the coastal economy of the Overberg region. The settlement primarily comprises residential neighbourhoods supported by community facilities, municipal services, local businesses and tourism-related economic activity associated with the broader Hermanus and Overstrand area. The Overstrand Heritage Survey notes that Hawston has evolved from its origins as a fishing settlement into a predominantly residential community that has experienced significant housing and infrastructure development over time.

The Overstrand MSDF identifies Hawston and Fisherhaven as an area with high growth potential and significant socio-economic development needs. Future residential growth, community development and associated economic opportunities are anticipated within the area, resulting in an increasing demand for bulk municipal infrastructure and services.

Land uses surrounding the proposed development consist predominantly of:

- Municipal infrastructure associated with the existing Hawston WWTW;
- Residential development within Hawston located approximately 200 m from the expansion area;
- Residential development within Fisherhaven located approximately 1.2 km from the site; and
- Areas of vacant and undeveloped land surrounding the existing wastewater treatment works.

The local community is therefore reliant on the continued provision of essential municipal services, including wastewater treatment infrastructure, to support existing residential areas and accommodate future growth. The proposed expansion of the Hawston WWTW will contribute towards maintaining and improving municipal service delivery, supporting public health objectives, protecting environmental quality and providing the bulk infrastructure capacity required to support future development in the Hawston/Fisherhaven area.

As such, the surrounding community can be characterised as a predominantly residential coastal community with historical fishing roots, supported by municipal services and local economic activity, and identified by the Municipality as an area requiring continued infrastructure investment to accommodate future growth and development.

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

The proposed expansion of the Hawston Wastewater Treatment Works (WWTW) represents a significant municipal infrastructure investment that will contribute directly towards improved service delivery, environmental protection and sustainable economic development within the Hawston and Fisherhaven area. The estimated capital value of the project is approximately **R136.3 million (excluding VAT)**, demonstrating the strategic importance of the development in addressing long-term municipal infrastructure requirements.

The project will increase the treatment capacity of the existing Hawston WWTW through the provision of an additional 2.5 ML/day treatment capacity during Phase 1 and provision for a future additional 2.5 ML/day capacity, thereby ensuring that wastewater infrastructure can accommodate current and future development demands within the municipal service area.

The Overstrand Municipal Spatial Development Framework identifies Hawston and Fisherhaven as a strategic growth area and specifically recognises the need to upgrade the Hawston WWTW to support anticipated development and population growth. The proposed development therefore provides critical bulk sanitation infrastructure required to facilitate future residential development, community facilities, investment opportunities and economic growth within the area.

From an environmental and public health perspective, the project will improve wastewater treatment performance through the implementation of upgraded treatment technologies, including an Enhanced Biological Phosphorus Removal (EBPR) process. Improved treatment efficiency will contribute towards the protection of downstream water resources, surrounding wetlands and the receiving environment while supporting regulatory compliance and sustainable municipal service provision.

During construction, the project will generate temporary employment and procurement opportunities through the appointment of contractors, specialist service providers and suppliers. More importantly, the long-term socio-economic value of the project will be realised through the provision of reliable municipal sanitation infrastructure that supports community wellbeing, environmental quality and future economic development within the Overstrand Municipal area.

The proposed development therefore has a high socio-economic value, as it safeguards the municipality's ability to provide essential sanitation services, supports planned growth and development, protects environmental resources and secures critical infrastructure investment for the benefit of existing and future residents of the Hawston/Fisherhaven area.

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

NA – see response above.

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.

The proposed expansion of the Hawston Wastewater Treatment Works (WWTW) has the potential to influence people's health and well-being, particularly in relation to construction-related disturbance, operational noise, odours, visual character and perceptions associated with wastewater treatment infrastructure. These aspects were considered during the planning and design of the proposed development given the presence of residential areas in the vicinity of the site, including Hawston located approximately 200 m from the proposed expansion area and Fisherhaven located approximately 1.2 km from the site.

From a public health perspective, the proposed development is expected to result in a positive long-term impact by improving the efficiency, reliability and capacity of the municipal wastewater treatment system. The expansion will assist the Municipality in accommodating current and future wastewater treatment requirements and will contribute to improved wastewater management and environmental protection.

During the construction phase, temporary impacts may include increased noise levels, dust generation, vehicle movement and visual disturbance associated with construction activities. These impacts are expected to be localised and short-term in duration and can be managed through the implementation of standard construction-phase mitigation measures contained in the EMPr.

In terms of operational impacts, wastewater treatment works can generate odours associated with the treatment and handling of sewage and sludge. However, the proposed development forms part of an existing operational WWTW where wastewater treatment is already an established land use. The project involves upgrading and modernising treatment infrastructure, which is expected to improve treatment performance and operational management. As a result, the proposal is not anticipated to introduce a substantially different land-use character to the area.

The visual impact of the proposed development is also expected to be limited. The development constitutes an expansion of existing municipal infrastructure adjacent to the operational WWTW and does not introduce a new industrial land use into the receiving environment. The Heritage Screener confirmed that the site is located outside the historic core of Hawston and that the proposed expansion is unlikely to affect the heritage significance or character of the broader area.

These potential impacts have influenced the proposed development in the following ways:

- The development has been located adjacent to the existing WWTW, thereby consolidating wastewater treatment activities within an established municipal infrastructure area rather than introducing the activity into a new location.
- The expansion footprint has been confined, as far as practicable, to previously disturbed areas associated with existing municipal infrastructure.
- Modern treatment processes and upgraded infrastructure have been incorporated into the design to improve operational performance and support compliance with environmental standards.
- Stormwater, wastewater and sludge management measures have been incorporated into the design to minimise environmental nuisance and protect surrounding environmental resources.
- Construction-phase mitigation measures for dust, noise, traffic and general site management will be implemented through the EMPr.

Overall, while temporary construction-related impacts and operational nuisance impacts such as noise and odours may occur, these are not anticipated to result in significant adverse effects on the health and well-being of surrounding communities when appropriate mitigation measures are implemented. In contrast, the long-term benefits associated with improved wastewater treatment capacity, environmental protection and municipal service delivery are expected to positively contribute to community well-being and public health within the Hawston and Fisherhaven area.

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 preferred property and site alternative is the expansion of the existing Hawston Wastewater Treatment Works (WWTW) on a portion of the Remaining Extent of Erf 1, Hawston, within the Overstrand Local Municipality. The preferred site is situated immediately adjacent to the existing operational WWTW and forms part of the municipal infrastructure area already utilised for wastewater treatment purposes. The preferred site was selected because it enables the expansion of existing wastewater treatment infrastructure within an established municipal services footprint, thereby avoiding the need to develop a new wastewater treatment facility on an alternative greenfield site. The site is already serviced by the necessary municipal infrastructure, access routes, wastewater reticulation systems and supporting services required for the operation of a wastewater treatment works. The site is zoned Authority Usage and is already associated with the existing lawful municipal land use. The proposed activity therefore represents the continuation and expansion of an existing municipal service function and is compatible with the existing land use rights applicable to the property. The preferred site is also considered suitable from an environmental perspective. The Biodiversity Assessment found that the proposed expansion area is largely located within a disturbed and modified environment dominated by invasive alien vegetation and historical disturbance, thereby reducing ecological impacts when compared to less disturbed areas in the surrounding landscape. Furthermore, the Wetland Assessment confirmed that the identified natural wetlands occur outside the proposed development footprint and concluded that the proposed development can be accommodated on the site provided that the recommended mitigation measures, stormwater controls and wetland protection measures are implemented. The Heritage Screener similarly concluded that no significant heritage resources occur within the proposed development area that would preclude development and that no further heritage studies are required. The preferred property and site alternative is therefore regarded as the most appropriate option because it: • Optimises existing municipal infrastructure and services. • Utilises land already associated with wastewater treatment activities. • Avoids the need for a new wastewater treatment facility and associated infrastructure corridors elsewhere. • Minimises impacts on natural habitat by making use of a previously disturbed area. • Can be developed without unacceptable impacts on wetlands, biodiversity or heritage resources, subject to the implementation of specialist recommendations. • Supports the long-term municipal infrastructure planning objectives identified for the Hawston/Fisherhaven growth area. Accordingly, the preferred property and site alternative is the expansion of the existing Hawston WWTW on the identified portion of Erf 1, Hawston, as this option best balances engineering feasibility, environmental considerations, service delivery requirements and long-term municipal planning objectives.	
Provide a description of any other property and site alternatives investigated.	
No alternative property or site locations were formally investigated as part of this application. The proposed development comprises the expansion and upgrading of the existing Hawston Wastewater Treatment Works (WWTW) and is intrinsically linked to the existing wastewater treatment infrastructure, sewer reticulation system, discharge infrastructure and municipal services network serving the Hawston and Fisherhaven areas. The nature of the proposed activity therefore necessitates its implementation in direct association with the existing treatment facility. The investigation of alternative properties for a new wastewater treatment works was not considered a reasonable or feasible alternative as this would require the acquisition of additional land and the construction of entirely new bulk wastewater infrastructure, including sewer connections, pump stations, access roads, electrical infrastructure and effluent discharge infrastructure. Such an approach would result in substantially higher financial costs, increased environmental disturbance and the duplication of existing municipal infrastructure.	

Furthermore, the preferred site is already utilised for municipal wastewater treatment purposes and is zoned for Authority Usage. The proposed expansion therefore represents the continuation and optimisation of an existing lawful municipal land use.

The Biodiversity Assessment, Wetland Assessment and Heritage Screening confirmed that the proposed expansion can be accommodated within the preferred site subject to the implementation of the recommended mitigation measures. No fatal environmental constraints were identified that would necessitate the investigation of a separate site alternative.

Accordingly, the **preferred site represents the only reasonable and feasible property alternative** capable of achieving the project objectives while optimising existing municipal infrastructure and minimising the need for additional environmental disturbance.

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

The preferred property and site alternative comprises the expansion and upgrading of the existing Hawston Wastewater Treatment Works (WWTW) on a portion of the Remaining Extent of Erf 1, Hawston. The preferred alternative was selected as it represents the most practical, environmentally acceptable and economically feasible option for achieving the project objectives while utilising existing municipal infrastructure and services.

The preferred site is directly associated with the existing operational WWTW and allows the proposed expansion to be integrated with existing wastewater treatment infrastructure, sewer reticulation networks, discharge infrastructure, access roads, electrical services and operational support facilities. This significantly reduces the need for additional bulk infrastructure and avoids unnecessary duplication of municipal services.

From a land-use planning perspective, the site is already utilised for wastewater treatment purposes and is zoned **Authority Usage**, making the proposed activity compatible with the existing land use rights applicable to the property. The proposal therefore represents the expansion of an existing municipal service function rather than the introduction of a new or incompatible land use.

Environmental considerations also informed the selection of the preferred site. The Biodiversity Assessment concluded that the proposed expansion area is situated largely within a modified environment dominated by invasive alien vegetation and historical disturbance. The site therefore presents fewer biodiversity constraints than less disturbed areas within the surrounding landscape.

Similarly, the Wetland Assessment confirmed that the identified natural wetlands occur outside the proposed development footprint and concluded that the proposed expansion can be accommodated on the site provided that the recommended stormwater controls, wetland protection measures and mitigation actions are implemented.

The Heritage Screener concluded that no significant heritage resources occur within the development footprint that would preclude development, and Heritage Western Cape subsequently confirmed that no further heritage studies are required.

The preferred alternative is further supported by municipal planning instruments. The Overstrand Municipal Spatial Development Framework identifies Hawston and Fisherhaven as a strategic growth area and specifically acknowledges the need for the upgrading of the Hawston WWTW to support future development and service delivery requirements.

Outcome of the Site Selection Matrix

No alternative property locations were formally investigated as the project comprises the expansion of an existing municipal wastewater treatment facility that is functionally dependent on existing infrastructure and service networks. A site selection exercise therefore focused on determining whether the preferred expansion area adjacent to the existing WWTW was suitable from a planning, engineering and environmental perspective.

The outcome of the site selection assessment is summarised below:

Criterion	Preferred Site Outcome
Compatibility with existing land use	Preferred. Existing WWTW and Authority Usage zoning.
Access to existing infrastructure	Preferred. Existing wastewater, road and electrical infrastructure available.
Engineering feasibility	Preferred. Expansion integrates with existing treatment processes and infrastructure.
Biodiversity constraints	Acceptable. Development located within a disturbed area of reduced ecological value.
Wetland constraints	Acceptable subject to mitigation. Wetlands occur outside the footprint.
Heritage constraints	Low. No significant heritage constraints identified.
Planning alignment	Preferred. Consistent with MSDP, municipal infrastructure planning and growth management objectives.
Financial feasibility	Preferred. Optimises existing municipal investment and avoids duplication of infrastructure.

On the basis of the above assessment, the preferred property and site alternative was considered to be the most suitable option, as it optimises existing infrastructure, minimises environmental impacts, aligns with municipal planning objectives and avoids the significant costs and environmental disturbance associated with establishing a new wastewater treatment facility on an alternative site.

Provide a full description of the process followed to reach the preferred alternative within the site.	
N/A – refer to the response given above.	
Provide a detailed motivation if no property and site alternatives were considered.	
N/A – refer to the response given above.	
List the positive and negative impacts that the property and site alternatives will have on the environment.	
N/A – refer to the response given above.	
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 preferred activity alternative is the upgrade and expansion of the existing Hawston Wastewater Treatment Works (WWTW) through the construction and operation of additional wastewater treatment infrastructure adjacent to the existing facility. The preferred activity will increase the treatment capacity of the existing works by an additional 2.5 Ml/day during Phase 1, with provision for a future additional 2.5 Ml/day, resulting in an ultimate treatment capacity of approximately 6.0 Ml/day. The preferred activity includes: • Construction of a new Raw Sewage Pump Station and Inlet Works. • Construction of a new Biological Reactor. • Construction of a new Secondary Settling Tank. • Construction of a Return Activated Sludge (RAS) Pump Station and associated recycling systems. • Construction of a Chlorine Contact Channel and associated disinfection infrastructure. • Construction of a new Dewatering Building and sludge handling facilities. • Installation of interconnecting pipelines, electrical infrastructure, MCCs, instrumentation, stormwater infrastructure, access roads, walkways, paving and associated ancillary infrastructure. The preferred activity alternative also incorporates the upgrading of the existing treatment process from the existing Modified Ludzack-Ettinger (MLE) configuration to an Enhanced Biological Phosphorus Removal (EBPR) process based on a modified University of Cape Town (UCT) configuration, thereby improving treatment efficiency and effluent quality. The preferred activity was selected because it: • Increases wastewater treatment capacity within an existing municipal service footprint. • Improves treatment performance and environmental compliance. • Utilises existing municipal infrastructure and services, thereby avoiding unnecessary duplication of infrastructure. • Supports existing and future development within the Hawston/Fisherhaven growth area. • Can be implemented within a disturbed area where environmental constraints can be appropriately managed through the implementation of specialist recommendations and mitigation measures. Accordingly, the preferred activity alternative is the expansion and upgrading of the existing Hawston WWTW through the implementation of additional treatment infrastructure and improved treatment technology, as this alternative best meets the service delivery, engineering, environmental and planning objectives of the project.	
Provide a description of any other activity alternatives investigated.	
No materially different activity alternatives were formally investigated as part of this application. The objective of the project is to provide additional wastewater treatment capacity and improve the treatment performance of the existing Hawston Wastewater Treatment Works (WWTW) in order to accommodate current and future wastewater treatment requirements within the Hawston and Fisherhaven service area. As the need for the project is directly related to municipal wastewater treatment infrastructure, the preferred activity is intrinsically linked to the upgrading and expansion of the existing WWTW. During the engineering planning process, various treatment components and process configurations were considered in developing the preferred design. The preferred activity comprises the upgrading of the existing treatment system through the implementation of an Enhanced Biological Phosphorus Removal (EBPR) process based on a modified University of Cape Town (UCT) configuration, together with associated treatment, sludge handling and support infrastructure. This process was selected as the preferred engineering solution to achieve the required treatment objectives and future capacity requirements. Alternative activities such as the construction of an entirely new wastewater treatment works at a different location, maintaining the existing treatment process without upgrading capacity, or implementing only partial infrastructure upgrades were not considered reasonable alternatives because they would either: • Fail to address the identified wastewater treatment capacity requirements;	

- Result in the duplication of existing municipal infrastructure;
- Require substantially greater capital expenditure and environmental disturbance; or
- Limit the Municipality's ability to accommodate future growth and comply with wastewater treatment requirements.

Accordingly, the preferred activity was identified as the most feasible and effective means of achieving the project objectives while optimising existing infrastructure, minimising environmental disturbance and supporting long-term municipal service delivery requirements.

Provide a motivation for the preferred activity alternative.

The preferred activity alternative comprises the upgrade and expansion of the existing Hawston Wastewater Treatment Works (WWTW) through the provision of additional treatment infrastructure and increased treatment capacity. This alternative was selected as it represents the most effective, practical and sustainable means of addressing the identified wastewater treatment requirements within the Hawston and Fisherhaven service area.

The primary motivation for the preferred activity is the need to increase the treatment capacity of the existing facility to accommodate current and future wastewater flows while improving treatment performance and compliance with applicable environmental and water quality standards. The existing Hawston WWTW was designed for an Average Dry Weather Flow (ADWF) of approximately 1.0 Ml/day and requires upgrading to meet increasing service delivery demands. The preferred alternative will provide an additional 2.5 Ml/day treatment capacity during Phase 1, with provision for a future additional 2.5 Ml/day capacity.

The preferred activity also incorporates the implementation of an Enhanced Biological Phosphorus Removal (EBPR) process based on a modified University of Cape Town (UCT) configuration. This treatment process was selected to improve wastewater treatment efficiency, effluent quality and overall operational performance of the facility. The preferred alternative therefore not only addresses capacity constraints but also improves the long-term environmental performance of the WWTW.

From a planning and infrastructure perspective, the preferred activity optimises existing municipal investment by expanding an established wastewater treatment facility rather than requiring the development of entirely new treatment infrastructure. The proposal makes use of existing municipal services, access infrastructure, sewer networks and operational systems, thereby reducing costs and avoiding unnecessary duplication of infrastructure.

The preferred activity is further supported by the Overstrand Municipal Spatial Development Framework, which identifies Hawston and Fisherhaven as a strategic growth area and specifically acknowledges the need for the upgrading of the Hawston WWTW to support future development and service delivery requirements.

Environmental investigations undertaken for the project confirmed that the preferred activity can be implemented without unacceptable environmental impacts. The Biodiversity Assessment found that the proposed expansion area is largely situated within a disturbed environment dominated by invasive alien vegetation, while the Wetland Assessment concluded that impacts on nearby wetlands can be mitigated to acceptable levels through the implementation of the recommended mitigation measures.

In comparison to other potential activity options, such as maintaining the status quo, implementing only partial upgrades, or constructing a new treatment facility elsewhere, the preferred activity provides the greatest infrastructure, environmental and socio-economic benefit while minimising additional environmental disturbance and capital expenditure.

The preferred activity is therefore considered to be the most appropriate alternative as it:

- Addresses existing and future wastewater treatment demand.
- Improves treatment efficiency and environmental compliance.
- Supports municipal service delivery objectives and planned growth within the Hawston/Fisherhaven area.
- Optimises existing municipal infrastructure and investment.
- Can be implemented without causing unacceptable impacts on biodiversity, wetlands or heritage resources.

Accordingly, the preferred activity alternative was selected as it best meets the project objectives while balancing engineering requirements, environmental considerations, municipal planning objectives and long-term service delivery needs.

Provide a detailed motivation if no activity alternatives exist.

Refer to the responses above.

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

Impact	Preferred Activity Alternative (Upgrade and Expansion of Hawston WWTW)	No-Go Alternative
Wastewater Treatment Capacity	Positive: Provides additional treatment capacity to accommodate current and future wastewater demand within the Hawston/Fisherhaven service area.	Negative: Existing treatment capacity constraints remain and may increase over time as wastewater volumes increase.

Service Delivery	Positive: Improves the Municipality's ability to provide sustainable sanitation services and long-term infrastructure resilience.	Negative: Limits the Municipality's ability to meet future service delivery requirements.
Water Quality Protection	Positive: Improved treatment processes and infrastructure are expected to enhance effluent quality and reduce the risk of environmental pollution.	Negative: Existing treatment infrastructure remains unchanged, potentially increasing the risk of reduced treatment performance as demand grows.
Groundwater Protection	Positive: Modernised treatment infrastructure, improved process control and containment systems reduce the risk of accidental pollution when properly managed.	Neutral to Negative: No improvement to existing infrastructure or environmental safeguards.
Wetlands and Aquatic Ecosystems	Negative (Construction Phase): Temporary disturbance associated with construction activities and increased risk of sedimentation or pollution if not properly managed. Mitigable through implementation of specialist recommendations.	Neutral: No direct construction-related disturbance. However, long-term risks associated with insufficient treatment capacity may indirectly affect aquatic environments.
Biodiversity	Negative: Loss of a limited area of disturbed vegetation and temporary disturbance to fauna during construction. Impacts were assessed as low due to the modified nature of the site and the dominance of invasive alien vegetation.	Positive: No direct habitat disturbance.
Alien Invasive Vegetation Management	Positive: Opportunity to remove and manage invasive alien vegetation occurring within the development footprint and rehabilitate disturbed areas.	Negative: Existing invasive alien vegetation is likely to remain unmanaged.
Noise and Dust	Negative (Construction Phase): Temporary noise, dust and increased traffic associated with construction activities.	Positive: No construction-related nuisance impacts.
Visual Impact	Negative: Additional treatment infrastructure may result in a slight increase in the visual scale of the existing WWTW.	Positive: Existing visual character remains unchanged.
Heritage Resources	Neutral: No significant heritage impacts were identified by the Heritage Screener.	Neutral: No heritage impacts.
Socio-Economic Benefits	Positive: Supports future development, improves service delivery, protects public health and contributes to local economic activity during construction.	Negative: Limits the Municipality's ability to support future growth and infrastructure requirements.
Resource Efficiency	Positive: Optimises existing municipal infrastructure and investment by expanding an established WWTW rather than developing a new facility elsewhere.	Negative: Does not maximise the use of existing infrastructure or address identified service requirements.
Environmental Compliance	Positive: Supports improved compliance with wastewater treatment and environmental management objectives.	Negative: Existing infrastructure limitations remain, potentially increasing future compliance risks.

The preferred activity alternative will result in certain short-term negative impacts, including vegetation clearance, construction-related disturbance, noise, dust and temporary impacts on nearby ecological features. However, these impacts are localised, temporary and capable of being mitigated through the implementation of the EMPr and specialist recommendations contained in Appendices G1 and G2.

The preferred alternative also results in substantial long-term positive impacts, including improved wastewater treatment performance, protection of water resources, enhanced service delivery, support for future growth within the Hawston/Fisherhaven area, and optimisation of existing municipal infrastructure.

By comparison, the No-Go Alternative would avoid the short-term construction impacts but would fail to address the identified need for additional wastewater treatment capacity, limiting the Municipality's ability to provide sustainable sanitation services and support planned development. Consequently, the preferred activity alternative is considered environmentally and socio-economically preferable.

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.

The preferred design/layout alternative entails the expansion of the existing Hawston Wastewater Treatment Works (WWTW) immediately adjacent to the existing operational facility, with the new treatment infrastructure being positioned within the area identified by the project engineers as the most suitable location from both an operational and environmental perspective. The layout has been developed to maximise the use of existing municipal infrastructure while minimising environmental impacts and operational constraints.

The preferred layout includes the construction of:

- A new Raw Sewage Pump Station;

- New Inlet Works;
- A Biological Reactor;
- A Secondary Settling Tank;
- A Return Activated Sludge (RAS) Pump Station;
- A Chlorine Contact Channel;
- A Dewatering Building and associated sludge handling infrastructure;
- Interconnecting pipelines and process infrastructure;
- Electrical, instrumentation and control infrastructure;
- Internal roads, walkways, paving and ancillary structures; and
- Stormwater management infrastructure.

The preferred layout was selected because it:

- Allows the new infrastructure to integrate efficiently with the existing treatment works and associated municipal services.
- Makes use of land already associated with wastewater treatment activities and municipal infrastructure.
- Concentrates development within an already disturbed area, thereby reducing impacts on surrounding natural habitat.
- Minimises the extent of additional infrastructure required to connect to existing sewer, electrical and operational systems.
- Enables continued operation of the existing WWTW during construction and commissioning of the upgraded facility.

The layout design was further influenced by the findings of the specialist studies. The Biodiversity Assessment (Appendix G1) confirmed that the preferred development area is located predominantly within a transformed environment characterised by invasive alien vegetation and historical disturbance. As a result, the footprint was refined to avoid unnecessary disturbance of more sensitive habitat areas where practicable.

Similarly, the Wetland Assessment (Appendix G2) identified nearby seep wetlands and drainage features and informed the positioning of infrastructure, stormwater management measures and the incorporation of mitigation measures aimed at protecting hydrological functioning and preventing impacts on adjacent wetland systems.

The preferred layout was also informed by engineering considerations, including process flow requirements, access for operation and maintenance, integration with existing treatment infrastructure, and provision for future expansion. The proposed arrangement allows for the phased expansion of the facility while maintaining operational efficiency and minimising disruption to existing wastewater treatment services.

Accordingly, the preferred design/layout alternative is considered the most suitable option as it achieves the project objectives, optimises existing infrastructure, accommodates future capacity requirements and avoids or minimises environmental impacts through informed site planning and layout design.

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

No materially different design or layout alternatives were formally investigated for the proposed expansion of the Hawston Wastewater Treatment Works (WWTW). The layout of the proposed infrastructure was primarily informed by engineering requirements, integration with the existing treatment process, available space adjacent to the existing WWTW, and environmental constraints identified through the specialist studies.

The proposed layout was developed to ensure that new treatment units could be integrated efficiently with the existing wastewater treatment infrastructure, including the existing sewer reticulation system, treatment processes, discharge arrangements, access infrastructure and operational facilities. As the project involves the expansion of an existing operational WWTW, the placement of infrastructure such as the biological reactor, secondary settling tank, pump stations and associated process infrastructure is largely dictated by operational requirements and hydraulic flow considerations.

During the design process, environmental constraints identified through the biodiversity and wetland specialist assessments were considered in refining the preferred layout. The footprint was positioned within an already disturbed and modified portion of the site to minimise impacts on surrounding biodiversity features and to avoid direct encroachment into delineated wetland areas. The final layout also incorporates stormwater management measures and allows for the protection of adjacent hydrological processes identified through the wetland assessment.

The Heritage Screener further confirmed that no heritage resources occur within the proposed development area that would necessitate amendments to the proposed layout.

Accordingly, while the detailed design process involved the optimisation of infrastructure placement within the preferred development area, no separate feasible layout alternatives were identified that would provide superior engineering, environmental or operational outcomes. The preferred layout was therefore adopted as it:	
• Utilises the existing wastewater treatment footprint efficiently; • Allows integration with existing treatment and support infrastructure; • Avoids direct impacts on delineated wetland features; • Minimises disturbance to surrounding biodiversity features by concentrating development within modified areas; and • Supports the long-term operational requirements of the expanded WWTW.	
Provide a motivation for the preferred design or layout alternative.	
N/A - refer to the above responses.	
Provide a detailed motivation if no design or layout alternatives exist.	
N/A - refer to the above responses.	
List the positive and negative impacts that the design alternatives will have on the environment.	
N/A - refer to the above responses.	
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:	
The preferred technology alternative is the upgrading of the existing Hawston Wastewater Treatment Works (WWTW) from the current Modified Ludzack-Ettinger (MLE) activated sludge process to an Enhanced Biological Phosphorus Removal (EBPR) process based on a modified University of Cape Town (UCT) configuration. The selected technology will increase treatment efficiency, improve nutrient removal performance and provide the additional treatment capacity required to accommodate current and future wastewater demands within the Hawston and Fisherhaven service area. The preferred process comprises the construction and operation of: • New inlet works incorporating mechanical screening, grit removal and flow measurement infrastructure; • An EBPR biological reactor incorporating anaerobic, anoxic and aerobic treatment zones; • A secondary settling tank for solids separation and clarification; • Return Activated Sludge (RAS) and recycle pumping systems; • Sodium hypochlorite disinfection facilities; • Sludge thickening and dewatering facilities; and • Automated process control systems, instrumentation and SCADA monitoring infrastructure. The technology was selected because it offers several advantages over maintaining the existing treatment process, including: • Improved removal of phosphorus and other treatment constituents. • Enhanced effluent quality and improved compliance with regulatory discharge requirements. • Increased treatment capacity to accommodate future growth within the municipal service area. • Greater operational flexibility through automated monitoring and process control systems. • Improved sludge management and dewatering performance. • Optimisation of existing infrastructure through integration with the current wastewater treatment facility. The preferred technology alternative also supports the environmental objectives of the project by improving treatment efficiency and reducing the risk of adverse impacts on downstream aquatic environments associated with wastewater discharge. The improved treatment process, together with upgraded sludge handling, disinfection and process control systems, is expected to result in better long-term environmental performance than the existing infrastructure. Accordingly, the EBPR process based on a modified UCT configuration was selected as the preferred technology alternative because it provides the most effective and sustainable means of achieving the required treatment capacity, improving wastewater treatment performance and supporting the Municipality's long-term service delivery objectives while making optimal use of existing infrastructure.	
Provide a description of any other technology alternatives investigated.	
No materially different wastewater treatment technologies were formally assessed as standalone alternatives during the design process. The project objective is to upgrade and expand an existing operational wastewater treatment facility and, as	

such, the preferred technology was developed around infrastructure that could be effectively integrated with the existing treatment works while achieving the required treatment capacity and effluent quality objectives.

The existing Hawston WWTW operates on a Modified Ludzack-Ettinger (MLE) process. During the engineering design process, the treatment requirements, future capacity needs, operational efficiency, sludge management requirements, treatment performance and compliance objectives were evaluated. This resulted in the selection of an Enhanced Biological Phosphorus Removal (EBPR) process based on a modified University of Cape Town (UCT) configuration as the preferred technology alternative.

The preferred technology was selected because it:

- Improves biological nutrient removal and overall treatment performance.
- Provides the required additional treatment capacity while allowing for future expansion.
- Integrates effectively with existing wastewater treatment infrastructure and operational systems.
- Incorporates modern process control and monitoring systems to enhance operational reliability.
- Improves sludge treatment and dewatering efficiency.
- Supports improved compliance with wastewater treatment and environmental performance requirements.

Alternative technologies requiring the development of a completely new treatment facility or a fundamentally different treatment process were not considered reasonable or feasible alternatives given the availability of existing wastewater treatment infrastructure, the requirement to optimise municipal investment and the need to integrate seamlessly with the current wastewater treatment system.

Accordingly, no separate technology alternatives were advanced for detailed assessment. The preferred EBPR/modified UCT process was identified as the most appropriate technology solution to achieve the project objectives while optimising existing infrastructure, improving treatment performance and providing for future growth within the municipal service area.

Alternative Technology Considered: Existing MLE process (status quo technology).

Reason Not Preferred: The existing process was not considered sufficient to meet the long-term treatment capacity and performance requirements that necessitated the upgrade. The preferred EBPR process provides improved treatment efficiency, nutrient removal and operational flexibility while accommodating future expansion requirements.

Provide a motivation for the preferred technology alternative.

The preferred technology alternative for the proposed expansion of the Hawston Wastewater Treatment Works (WWTW) is the implementation of an Enhanced Biological Phosphorus Removal (EBPR) process based on a modified University of Cape Town (UCT) configuration, integrated with new inlet works, biological treatment infrastructure, secondary settling, disinfection, sludge handling and automated process control systems.

This technology was selected because it provides the most effective and sustainable means of achieving the project's primary objectives, namely increasing treatment capacity, improving effluent quality and ensuring long-term operational reliability. The preferred process allows for the expansion of treatment capacity while improving nutrient removal efficiency, particularly phosphorus removal, thereby supporting improved environmental performance and regulatory compliance.

A key consideration in selecting the preferred technology was its ability to integrate with the existing wastewater treatment infrastructure. The proposed EBPR process builds on the existing treatment works and enables the Municipality to optimise existing assets and infrastructure rather than replacing the entire facility or developing a new treatment works elsewhere. This approach reduces capital costs, limits environmental disturbance and makes efficient use of existing municipal infrastructure.

The preferred technology also provides greater operational flexibility and improved process control through the incorporation of modern instrumentation, monitoring systems and SCADA integration. The design includes automated control of key treatment processes and operational parameters, enabling more efficient operation and improved treatment consistency.

In addition, the preferred technology incorporates upgraded sludge management and dewatering facilities, improved screening and grit removal systems, upgraded disinfection infrastructure and provision for future expansion. These improvements contribute to the overall efficiency, resilience and long-term sustainability of the wastewater treatment system.

From an environmental perspective, the preferred technology supports the objectives identified through the biodiversity and wetland assessments by improving treatment performance and reducing the potential risk of adverse impacts on downstream water resources, wetlands and the receiving environment. Improved treatment efficiency contributes to the protection of aquatic ecosystems and supports compliance with applicable water quality requirements.

The preferred technology further aligns with the Municipality's infrastructure planning objectives by providing sufficient capacity to accommodate projected future growth within the Hawston and Fisherhaven service area while maintaining acceptable treatment standards. The technology was therefore selected on the basis of engineering feasibility, environmental performance, operational reliability, future expandability and compatibility with existing infrastructure.

Accordingly, the preferred technology alternative is considered the most appropriate option as it:

- Provides the required increase in treatment capacity.
- Improves nutrient removal and overall effluent quality.
- Optimises and integrates with existing municipal infrastructure.
- Improves operational efficiency through automated process control and monitoring.
- Supports long-term service delivery and future expansion requirements.
- Contributes to the protection of receiving water resources and the surrounding environment.

The preferred technology alternative therefore represents the most feasible, efficient and environmentally responsible solution for achieving the project objectives while supporting sustainable municipal service delivery.

Provide a detailed motivation if no alternatives exist.

N/A - refer to the above responses.

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

Technology Alternative	Positive Environmental Impacts	Negative Environmental Impacts
Preferred Technology Alternative Enhanced Biological Phosphorus Removal (EBPR) process based on a Modified UCT configuration	• Improved wastewater treatment efficiency and overall effluent quality. • Improved biological nutrient removal, particularly phosphorus removal, reducing the risk of eutrophication in receiving water resources. • Improved protection of downstream aquatic ecosystems, wetlands and water resources through enhanced treatment performance. • Improved sludge management and dewatering efficiency, reducing operational risks associated with sludge handling. • Improved process monitoring and control through SCADA and automated systems, allowing more reliable operation. • Increased treatment capacity to meet future wastewater demands while maintaining compliance with environmental standards.	• Construction of additional treatment infrastructure will result in temporary vegetation disturbance, excavation and construction-related impacts. • Increased energy consumption associated with additional treatment processes and infrastructure. • Continued generation of sludge requiring management and disposal. • Potential nuisance impacts such as odours and operational noise if not properly managed. • Potential environmental impacts associated with chemical storage and handling, such as sodium hypochlorite, if management measures fail.
Existing Technology Alternative (MLE Process / Status Quo)	• No additional construction-related disturbance. • No additional vegetation clearing or expansion of the existing footprint.	• Limited ability to accommodate future wastewater treatment demands. • Reduced treatment flexibility and nutrient removal performance when compared to the preferred technology. • Increased risk that future wastewater volumes may place pressure on treatment capacity • Missed opportunity to improve effluent quality and environmental performance. • Reduced ability to support anticipated growth within the Hawston/Fisherhaven service area.

Although the preferred EBPR/Modified UCT technology alternative will result in some short-term construction-related impacts and increased operational infrastructure requirements, these impacts are largely temporary or manageable through the implementation of appropriate mitigation measures. The preferred technology offers substantial environmental benefits through improved wastewater treatment performance, enhanced nutrient removal, improved protection of water resources

and wetlands, increased operational efficiency and improved compliance with environmental standards. Accordingly, the preferred technology alternative is considered to provide the most favourable long-term environmental outcome.	
1.5.	Operational alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.
Provide a description of the preferred operational alternative.	
The preferred operational alternative is the continued operation of the Hawston Wastewater Treatment Works (WWTW) following the proposed upgrade and expansion of the facility. Under this alternative, the upgraded WWTW will operate using an Enhanced Biological Phosphorus Removal (EBPR) process based on a modified University of Cape Town (UCT) configuration, replacing the existing treatment arrangement with a more efficient and robust treatment system capable of accommodating increased wastewater flows and improving effluent quality. The preferred operational alternative will enable the facility to increase its treatment capacity by an additional 2.5 Ml/day during Phase 1, while making provision for a future additional 2.5 Ml/day, resulting in an ultimate treatment capacity of approximately 6 Ml/day. This operational approach was selected to ensure that the Municipality can continue to provide reliable wastewater treatment services while accommodating future growth within the Hawston and Fisherhaven service area. The upgraded facility will operate with: • Improved inlet screening and grit removal systems. • Enhanced biological treatment for nutrient removal. • Secondary clarification processes. • Sodium hypochlorite disinfection of final effluent. • Improved sludge thickening, dewatering and handling infrastructure. • Automated monitoring, instrumentation and SCADA control systems to improve operational efficiency and reliability. The preferred operational alternative was selected because it provides the best balance between operational efficiency, environmental performance, regulatory compliance and long-term service delivery requirements. The improved treatment process will contribute to better effluent quality, improved nutrient removal and reduced risk of adverse impacts on downstream water resources and wetlands. From an environmental perspective, the preferred operational alternative supports the recommendations of the biodiversity and wetland specialists by maintaining wastewater treatment within an established municipal infrastructure footprint while improving treatment performance and reducing potential risks to surrounding environmental resources. Accordingly, the preferred operational alternative is the operation of the expanded and upgraded Hawston WWTW using the proposed EBPR treatment process and associated infrastructure, as this alternative provides improved operational performance, increased treatment capacity and enhanced environmental protection while supporting long-term municipal service delivery objectives.	
Provide a description of any other operational alternatives investigated.	
NA	
Provide a motivation for the preferred operational alternative.	
NA	
Provide a detailed motivation if no alternatives exist.	
NA	
List the positive and negative impacts that the operational alternatives will have on the environment.	
NA	
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.	
The No-Go Alternative was considered as part of the assessment process. Under this alternative, the proposed upgrade and expansion of the Hawston WWTW would not proceed and the facility would continue to operate in its current configuration and capacity. This alternative would not provide the additional wastewater treatment capacity required to accommodate future growth within the service area and would not realise the long-term service delivery, environmental management and infrastructure planning benefits associated with the proposed development.	
1.7.	Provide an explanation as to whether any other alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist.
A number of alternatives and design refinements were considered during the planning and assessment process to avoid or minimise environmental impacts and to maximise the positive benefits associated with the proposed expansion of the Hawston Wastewater Treatment Works (WWTW). These refinements were informed by the engineering design process and the findings of the biodiversity, wetland and heritage specialist studies. Measures Incorporated to Avoid Negative Impacts	

The most significant impact avoidance measure was the selection of an expansion area directly adjacent to the existing WWTW rather than developing a new facility elsewhere. This allows the project to utilise an existing municipal infrastructure footprint and avoids the disturbance associated with establishing new treatment infrastructure on a greenfield site.

The biodiversity assessment further influenced the location of the development footprint by confirming that the proposed expansion area is largely situated within a modified environment dominated by invasive alien vegetation and previously disturbed habitat. Locating the expansion within this transformed area avoids or reduces impacts on more intact habitat and biodiversity features.

The wetland assessment identified nearby seep wetlands and influenced the layout by ensuring that direct encroachment into delineated wetland areas is avoided.

Measures Incorporated to Minimise Unavoidable Impacts

Where impacts could not be completely avoided, mitigation measures were incorporated into the design and Environmental Management Programme (EMPr), including:

- Limiting vegetation clearing to the minimum area required for construction.
- Implementing alien invasive vegetation control and rehabilitation measures.
- Incorporating stormwater controls designed to protect adjacent wetlands and maintain hydrological functioning.
- Designing wastewater treatment infrastructure to minimise the risk of leakage, contamination and impacts on groundwater resources.
- Incorporating erosion and sediment control measures during construction.
- Including Chance Finds Procedures to address any previously unknown heritage resources that may be encountered during construction.

Measures Incorporated to Maximise Positive Impacts

The preferred alternative maximises positive impacts by:

- Increasing wastewater treatment capacity to accommodate future growth within the Hawston/Fisherhaven area.
- Improving wastewater treatment performance through the implementation of an Enhanced Biological Phosphorus Removal (EBPR) process based on a modified UCT configuration.
- Improving effluent quality and reducing potential risks to downstream aquatic ecosystems and water resources.
- Supporting long-term municipal service delivery and planned growth identified in the Overstrand MSDF.
- Optimising the use of existing municipal infrastructure and public investment.

Reasonable and Feasible Alternatives

No additional reasonable or feasible property, site, layout or technology alternatives were identified that would materially reduce environmental impacts while still achieving the project objectives. The project is inherently linked to the existing wastewater treatment facility, municipal reticulation network, discharge infrastructure and service area. Relocating the activity or constructing a new treatment facility elsewhere would require substantial additional infrastructure, increased environmental disturbance and significantly higher capital costs without providing a corresponding environmental benefit.

Furthermore, the specialist investigations concluded that the preferred site can accommodate the proposed expansion without resulting in unacceptable impacts on biodiversity, wetlands or heritage resources, provided that the recommended mitigation measures are implemented.

Accordingly, the preferred alternative already incorporates practical avoidance and mitigation measures and represents the most environmentally acceptable, socially beneficial and technically feasible option available for achieving the objectives of the project.

1.8.	Provide a concluding statement indicating the preferred alternatives, including the preferred location of the activity.
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Based on the findings of the engineering investigations, specialist studies, environmental assessments and planning policy review, the preferred alternative is the **upgrade and expansion of the existing Hawston Wastewater Treatment Works (WWTW)** on a portion of the Remaining Extent of Erf 1, Hawston, within the Overstrand Local Municipality. This alternative was identified as the most practical, feasible and environmentally acceptable option to address current and future wastewater treatment requirements within the Hawston and Fisherhaven service area.

The preferred **property and site alternative** comprises the expansion of the existing WWTW within an established municipal infrastructure footprint already utilised for wastewater treatment purposes. This location was preferred as it optimises existing infrastructure, avoids the need for a new greenfield facility, is compatible with the existing Authority Usage zoning, and can accommodate the proposed upgrade without unacceptable impacts on biodiversity, wetlands or heritage resources, subject to the implementation of the recommended mitigation measures.

The preferred **activity alternative** is the expansion of the existing treatment facility to provide an additional 2.5 Ml/day treatment capacity during Phase 1, with provision for a future additional 2.5 Ml/day capacity, thereby improving the Municipality's ability to accommodate future growth and service delivery requirements.

The preferred **technology alternative** is the implementation of an Enhanced Biological Phosphorus Removal (EBPR) process based on a modified University of Cape Town (UCT) configuration, integrated with upgraded inlet works, biological treatment infrastructure, secondary settling, disinfection, sludge handling and automated process control systems. This technology was selected because it provides improved treatment efficiency, enhanced nutrient removal, increased treatment capacity and improved environmental performance when compared to the existing treatment process.

The preferred **operational alternative** is the continued operation of the upgraded WWTW within the existing municipal services footprint, thereby ensuring improved wastewater treatment, long-term regulatory compliance and sustainable municipal service delivery while minimising additional environmental disturbance.

No other reasonable or feasible property, site, activity or technology alternatives were identified that would achieve the project objectives more effectively while resulting in lower overall environmental impacts. The preferred alternatives therefore represent the best balance between environmental considerations, engineering requirements, municipal planning objectives, infrastructure optimisation and socio-economic benefits.

Accordingly, the preferred alternative is the expansion and upgrading of the existing Hawston Wastewater Treatment Works at the existing WWTW site on the Remaining Extent of Erf 1, Hawston, using the proposed EBPR treatment technology and associated infrastructure, subject to the implementation of the mitigation measures and management actions contained in the BAR and EMP.

2. "No-Go" areas

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

No formal "no-go" areas were identified within the proposed development footprint during the alternatives assessment process. The specialist investigations concluded that the proposed expansion of the Hawston Wastewater Treatment Works can be accommodated within the preferred development area, provided that the recommended mitigation measures and environmental management actions are implemented.

The Wetland Assessment (Appendix G2) identified two natural seep wetlands (H1_HSS1 and H3_HSS2) adjacent to the proposed development area. Although these features were not identified as absolute no-go areas for the broader property, they were recognised as environmentally sensitive aquatic features requiring protection from direct disturbance and indirect impacts. Consequently, the development footprint was planned to avoid direct encroachment into the delineated wetland areas and associated hydrological processes.

Similarly, the Biodiversity Assessment (Appendix G1) identified biodiversity sensitivities within the broader study area. However, the preferred development footprint was located within a disturbed and transformed area characterised by invasive alien vegetation and historical disturbance. No biodiversity features requiring exclusion of the proposed footprint were identified.

The Heritage Screener (Appendix N) concluded that no significant heritage resources occur within the proposed development area and therefore did not identify any heritage-related no-go areas.

Accordingly, no formally defined no-go areas were established for the project. Environmentally sensitive features identified by the specialist studies have instead been incorporated into the site design through avoidance measures, development setbacks, stormwater controls and environmental management requirements.

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.

Refer to **Appendix J** for the Impact Assessment Methodology.

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.

Refer to **Appendix J** for the Impact Assessment Methodology and Impact Assessment Tables.

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.		
Specialist studies were undertaken to assess biodiversity, wetland and aquatic resources, heritage resources and environmental sensitivities identified by the Environmental Screening Tool. The findings and recommendations of these studies informed the refinement of the development footprint, engineering design, mitigation measures and Environmental Management Programme (EMPr).			
Specialist Study	Key Findings	Key Impact Management Measures	Influence on the Proposed Development
Biodiversity Assessment (Appendix G1)	The broader area is associated with biodiversity sensitivities; however, the proposed expansion footprint occurs largely within a disturbed area dominated by invasive alien vegetation and historical disturbance. The ecological value of the footprint was found to be relatively low and the overall ecological impact was assessed as low, provided mitigation measures are implemented.	Restrict vegetation clearing to the approved footprint; implement alien invasive vegetation control; rehabilitate disturbed areas with indigenous vegetation; prevent unnecessary disturbance outside the construction area; undertake pre-construction verification where required for species of conservation concern; implement erosion and stormwater management controls.	The expansion footprint was confined to disturbed and transformed areas adjacent to the existing WWTW to minimise impacts on biodiversity resources. Biodiversity mitigation and rehabilitation measures have been incorporated into the EMPr.
Wetland and Aquatic Assessment (Appendix G2)	Two natural seep wetlands were identified in proximity to the development area, together with an artificial wetland feature. The specialist concluded that the proposed development can be supported from an aquatic perspective, provided that mitigation measures are implemented. Impacts were assessed as capable of being reduced to acceptable levels.	Avoid direct disturbance of delineated wetlands; maintain hydrological connectivity; implement stormwater management measures; prevent erosion and sedimentation; control polluted runoff; rehabilitate disturbed areas; monitor wetland protection measures during construction.	The final layout avoids direct encroachment into delineated wetland areas and incorporates stormwater management measures designed to protect downstream aquatic systems and maintain ecological functioning.
Environmental Screening Tool and Site Sensitivity Verification (Appendix I and Appendix M)	The Screening Tool identified Very High Terrestrial Biodiversity Sensitivity and other environmental sensitivities requiring specialist verification. Site verification confirmed that actual on-site conditions are significantly modified and that specialist studies were required to verify mapped sensitivities.	Undertake specialist biodiversity and wetland investigations in accordance with the Environmental Screening Tool requirements and specialist protocols.	The findings resulted in the commissioning of specialist assessments and informed the final environmental design, mitigation measures and impact assessment.
Heritage Screener (Appendix N)	No significant archaeological, cultural landscape, historical or palaeontological resources were identified within the development footprint. The proposed expansion was found to be unlikely to impact heritage resources.	Implement Chance Finds Procedures and stop-work procedures should previously unidentified heritage resources be encountered during construction.	No changes to the layout were required from a heritage perspective. Heritage-related management actions have been incorporated into the EMPr.
Heritage Western Cape Response	Heritage Western Cape confirmed that no further action in terms of Section 38 of the NHRA is required.	Include Chance Finds and Accidental Finds Procedures in the EMPr and Environmental Authorisation.	Confirmed that no further heritage studies were necessary and that heritage management can be addressed through standard EMPr provisions.
Overall Influence of Specialist Findings on the Proposed Development			

The specialist investigations collectively confirmed that the proposed expansion can be accommodated within the preferred development area without resulting in unacceptable environmental impacts, provided that the recommended mitigation measures are implemented.

The principal ways in which the specialist findings influenced the proposed development include:

- Confining the development footprint to already disturbed areas dominated by invasive alien vegetation to minimise biodiversity impacts.
- Avoiding direct impacts on delineated wetland features and incorporating wetland protection measures into the final design.
- Incorporating stormwater, erosion and runoff control measures to protect downstream aquatic ecosystems.
- Requiring alien invasive vegetation management and rehabilitation of disturbed areas.
- Incorporating biodiversity, wetland and heritage management measures into the EMPr.
- Confirming that no significant heritage constraints exist and that chance-finds procedures are sufficient to manage residual heritage risk.

The specialist studies therefore played a fundamental role in refining the development footprint, informing environmental management measures and demonstrating that the preferred alternative represents the most environmentally acceptable and feasible option for the expansion of the Hawston Wastewater Treatment Works.

2.	List the impact management measures that were identified by all Specialist that will be included in the EMPr
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The Biodiversity Assessment (Appendix G1), Wetland Assessment (Appendix G2), Heritage Screening Assessment (Appendix N) and Heritage Western Cape response identified a number of mitigation and management measures that should be incorporated into the Environmental Management Programme (EMPr) to avoid, minimise and manage potential environmental impacts associated with the proposed expansion of the Hawston Wastewater Treatment Works (WWTW).

Biodiversity Management Measures (Appendix G1)

- Limit all site clearing, earthworks and construction activities to the approved development footprint.
- Clearly demarcate the construction footprint and environmentally sensitive areas prior to the commencement of construction activities.
- Prevent unnecessary disturbance of vegetation outside the approved development area.
- Implement an Alien Invasive Vegetation Control Programme during construction and operation.
- Remove and dispose of invasive alien vegetation in accordance with best-practice management measures.
- Conduct pre-construction verification surveys where required for species of conservation concern.
- Rescue, relocate or obtain relevant permits should protected plant species be encountered within the construction footprint.
- Rehabilitate disturbed areas following construction using appropriate indigenous vegetation.
- Implement erosion prevention and soil stabilisation measures.
- Restrict vehicle movement to designated access routes and work areas.
- Prohibit hunting, trapping, collecting or disturbance of fauna by construction personnel.
- Implement environmental awareness training for all personnel working on site.

Wetland and Aquatic Management Measures (Appendix G2)

- Avoid direct disturbance of delineated wetland areas.
- Protect adjacent seep wetlands and aquatic habitats from construction-related impacts.
- Maintain existing hydrological pathways and ecological functioning of nearby wetlands.
- Implement stormwater management measures to control runoff from the site.
- Design stormwater outlets to prevent erosion and concentrated discharge into wetland systems.
- Prevent contaminated runoff, wastewater, chemicals, fuels and construction materials from entering aquatic environments.
- Implement erosion and sediment control measures during all earthworks activities.
- Stabilise exposed soils immediately following construction.
- Rehabilitate disturbed areas adjacent to wetland features.
- Monitor compliance with wetland protection measures during construction.

Groundwater and Water Quality Protection Measures

- Ensure all wastewater treatment infrastructure is designed and maintained to prevent leakages and seepage.
- Store fuels, oils and hazardous substances within appropriately bunded areas.
- Implement spill prevention and spill response procedures.
- Prevent contamination of the underlying groundwater resource through appropriate engineering controls and operational management measures.

Heritage Management Measures (Appendix N and HWC)

- Implement a Chance Finds Procedure during all excavation and earthworks activities.
- Cease construction activities immediately should archaeological, palaeontological or cultural heritage material be uncovered.
- Notify Heritage Western Cape and a suitably qualified heritage specialist if heritage resources are discovered.
- Implement an Accidental Finds Procedure as required by Heritage Western Cape.

Construction Environmental Management Measures

- Restrict construction activities to approved work areas.
- Implement dust suppression measures where required.
- Implement waste management procedures and ensure appropriate disposal of construction waste.
- Maintain good housekeeping throughout the construction period.
- Ensure personnel are informed of environmental sensitivities and EMP requirements through induction training.

Conclusion

The specialist studies concluded that the proposed expansion of the Hawston WWTW can proceed without resulting in unacceptable impacts, provided that the above mitigation and management measures are implemented through the EMP. The key focus areas for environmental management are:

- Protection of biodiversity and rehabilitation of disturbed areas;
- Protection of adjacent wetland systems and hydrological processes;
- Prevention of groundwater and surface water contamination;
- Management of construction-related impacts; and
- Implementation of heritage chance-finds procedures.

3.	List the specialist investigations and the impact management measures that will not be implemented and provide an explanation as to why these measures will not be implemented.
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NA

4.	Explain how the proposed development will impact the surrounding communities.
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The proposed expansion of the Hawston Wastewater Treatment Works (WWTW) is expected to have both positive and negative impacts on the surrounding communities during the construction and operational phases. However, the long-term benefits associated with improved sanitation services, environmental protection and infrastructure capacity are anticipated to outweigh the temporary and localised adverse impacts.

During the construction phase, nearby residents may experience temporary nuisance impacts associated with construction activities. These may include increased noise levels from construction equipment and vehicles, dust generation from earthworks and vehicle movement, increased traffic along access routes, and temporary visual disturbance associated with construction activities. Given the proximity of residential areas within Hawston to the existing WWTW, these impacts have been considered during the planning process and will be managed through the implementation of construction-phase mitigation measures contained in the Environmental Management Programme (EMP). These measures include dust suppression, noise management, control of construction traffic, appropriate working hours and good housekeeping practices.

The development may also result in temporary employment opportunities during the construction phase through the appointment of contractors, suppliers and labour. While these opportunities are expected to be short-term, they will provide a positive economic contribution to the local area and support local economic activity.

During the operational phase, the proposed development is expected to provide significant benefits to the surrounding communities. The upgraded facility will increase wastewater treatment capacity and improve the efficiency and reliability of the municipal sanitation system. This will contribute to improved service delivery, support future residential growth and reduce the risk of environmental and public health impacts associated with insufficient wastewater treatment capacity.

Potential operational impacts on surrounding communities may relate to odours, visual intrusion and operational noise typically associated with wastewater treatment infrastructure. However, the proposal constitutes the expansion of an existing operational WWTW where such activities already occur. The upgraded facility will incorporate modernised treatment

infrastructure and improved process controls, which are intended to improve operational performance and environmental compliance. As a result, the development is not expected to fundamentally alter the existing character of the area or introduce a new land use into the receiving environment.

The proposal will also provide broader community benefits through improved environmental management. Enhanced wastewater treatment processes will contribute to better protection of surface water resources, wetlands and the surrounding environment, which in turn supports community health, environmental quality and the sustainable use of natural resources.

Importantly, the Overstrand Municipal Spatial Development Framework identifies Hawston and Fisherhaven as a strategic growth area and specifically recognises the need for upgrading the Hawston WWTW to support future development and service delivery requirements. The project will therefore provide critical bulk infrastructure needed to accommodate planned growth while maintaining acceptable levels of municipal service delivery.

In summary, the anticipated impacts on surrounding communities are as follows:

Positive impacts

- Improved wastewater treatment capacity and service reliability.
- Enhanced public health and sanitation services.
- Improved protection of environmental resources and water quality.
- Support for future residential and economic development.
- Temporary employment and economic opportunities during construction.
- Long-term support for sustainable community growth and municipal service delivery.

Negative impacts

- Temporary construction-related noise, dust and traffic.
- Temporary visual disturbance during construction.
- Potential operational odour and noise impacts associated with wastewater treatment activities, although these are expected to remain within the context of the existing land use.

Overall, the proposed development is expected to result in a net positive impact on surrounding communities, as it strengthens essential municipal infrastructure required to support existing residents and future growth, while temporary and operational nuisance impacts can be effectively managed through the implementation of the recommended mitigation measures and the EMPr.

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.
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Climate change has the potential to influence both the construction and operational phases of the proposed expansion of the Hawston Wastewater Treatment Works (WWTW). The primary climate-related risks relevant to the proposed development include increased temperatures, changes in rainfall patterns, more frequent and intense storm events, drought conditions, flooding, coastal climate influences and the potential effects of climate variability on municipal infrastructure and service delivery. These factors were considered during the planning and design of the proposed upgrade.

From an operational perspective, climate change is expected to place increasing pressure on municipal water and sanitation infrastructure. Population growth, prolonged droughts and changing rainfall patterns may alter wastewater generation rates and place additional demands on existing treatment infrastructure. The proposed upgrade has therefore been designed to increase treatment capacity and provide for future expansion, thereby improving the resilience of the Hawston WWTW and supporting the Municipality's ability to accommodate changing service delivery requirements over the long term.

Climate change may also increase the frequency and intensity of extreme rainfall events, which can result in elevated inflows to wastewater systems, localised flooding, erosion and increased stormwater runoff. The engineering design consequently incorporates stormwater management measures and associated infrastructure intended to manage runoff generated by the site and protect adjacent wetlands and aquatic resources from erosion, sedimentation and polluted discharges.

The wetland assessment identified nearby aquatic features and emphasised the importance of maintaining hydrological functioning and appropriately managing stormwater runoff. These considerations contribute to the climate resilience of the development by reducing the potential impacts of more intense rainfall events on surrounding aquatic ecosystems.

The site is also underlain by highly permeable sandy soils and occurs above a major fractured aquifer. Appropriate engineering controls, stormwater management measures, wastewater containment infrastructure and pollution prevention measures have therefore been incorporated into the project to minimise the risk of groundwater contamination, particularly during extreme weather events.

In terms of biodiversity and ecosystem resilience, the biodiversity assessment recommended the rehabilitation of disturbed areas and the management of invasive alien vegetation. These measures will contribute to improved ecological functioning and ecosystem resilience, which are important climate adaptation measures at a local scale.

The proposed development also contributes positively to climate adaptation by improving the reliability and resilience of critical municipal sanitation infrastructure. Maintaining adequate wastewater treatment capacity is important for protecting public health, water resources and environmental quality under changing climatic conditions.

Accordingly, climate change considerations have influenced the proposed development through:

- The provision of additional wastewater treatment capacity and allowance for future expansion to accommodate changing service delivery demands.
- Incorporation of stormwater management infrastructure to manage runoff and reduce flooding, erosion and pollution risks.
- Protection of adjacent wetlands and hydrological processes that contribute to ecosystem resilience.
- Implementation of groundwater protection, spill prevention and pollution control measures.
- Rehabilitation of disturbed areas and alien invasive vegetation management measures.
- Improvement of the long-term resilience of municipal wastewater infrastructure required to support communities within the Hawston/Fisherhaven area.

The proposed development is therefore considered to be both resilient to foreseeable climate-related risks and supportive of climate adaptation objectives through the upgrading of essential municipal infrastructure, improved environmental management and the implementation of specialist-recommended mitigation measures.

6.	Explain whether there are any conflicting recommendations between the specialists. If so, explain how these have been addressed and resolved.
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There are no conflicts that the EAP is aware of.

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.
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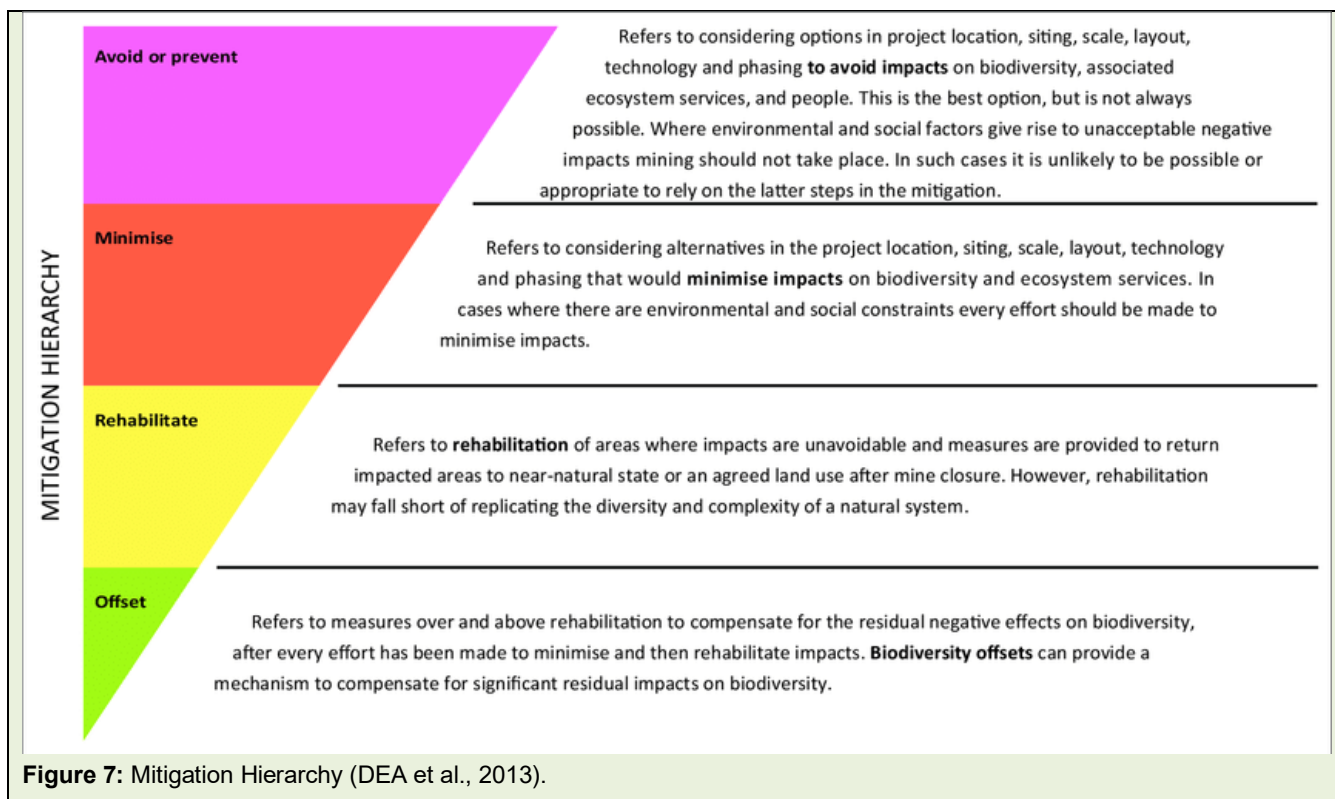
NA - Refer to responses above.

8.	Explain how the mitigation hierarchy has been applied to arrive at the best practicable environmental option.
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According to the Environmental Impact Assessment and Management Strategy for South Africa (2014), Impact Mitigation Hierarchy is a tool used throughout a project lifecycle to limit negative impacts on the environment. The first tier considers how to avoid the impact entirely and is considered early in the project to allow for alternatives to be considered.

The impacts which cannot be avoided should be minimised. Effective minimisation can eliminate some impacts and reduce others, allowing sustainability targets to be met. Where the targets cannot be met, the application should be declined. The next consideration is restoration, where minimisation efforts have failed to reach the required target.

Finally, and as a last resort to compensate for the ecological loss or residual impacts, the environmental loss or damage can be offset through compensation. This level intends to protect equivalent or greater ecological assets than those lost or to rehabilitate a degraded environment by restoring equivalent ecological assets.



SECTION J: GENERAL

1. Environmental Impact Statement

1.1.	Provide a summary of the key findings of the EIA.
The Environmental Impact Assessment (EIA) undertaken for the proposed expansion and upgrading of the Hawston Wastewater Treatment Works (WWTW) concluded that the preferred development alternative is environmentally acceptable and can be implemented without resulting in unacceptable environmental impacts, provided that the recommended mitigation measures and management actions are implemented through the Environmental Management Programme (EMPr). The proposed development will increase the treatment capacity of the existing Hawston WWTW through the provision of additional treatment infrastructure and the implementation of an Enhanced Biological Phosphorus Removal (EBPR) process. The project is required to accommodate current and future wastewater treatment demands and forms part of the Municipality's long-term infrastructure planning for the Hawston and Fisherhaven area. The Biodiversity Assessment determined that, although the broader area contains biodiversity sensitivities, the proposed development footprint is situated largely within a transformed and disturbed area dominated by invasive alien vegetation and historical disturbance. The assessment concluded that biodiversity impacts would be of low significance following the implementation of mitigation measures, including alien invasive vegetation management, rehabilitation of disturbed areas and restriction of construction activities to the approved footprint. The Wetland Assessment identified natural seep wetlands in proximity to the proposed development area but confirmed that these features occur outside the proposed footprint. The assessment concluded that impacts on aquatic resources can be reduced to acceptable levels through the implementation of stormwater management measures, wetland protection measures, erosion control measures and controls aimed at preventing contamination of nearby wetlands and watercourses. The Environmental Screening Tool identified elevated environmental sensitivities, necessitating specialist assessment and site sensitivity verification. The Site Sensitivity Verification process confirmed that on-site conditions are substantially modified and that the specialist findings provide a more accurate reflection of the actual environmental sensitivities associated with the development area. The Heritage Screener concluded that no significant archaeological, historical, cultural landscape or palaeontological resources occur within the proposed development footprint and that the project is unlikely to impact heritage resources. Heritage Western Cape subsequently confirmed that no further heritage studies are required, subject to the implementation of Chance Finds Procedures and Accidental Finds Procedures during construction. The EIA further found that the preferred alternative is consistent with the existing land use rights applicable to the property, the Overstrand Municipal Spatial Development Framework (MSDF), the Overstrand Integrated Development Plan (IDP) and	

the broader provincial planning framework. The proposal supports planned growth within the Hawston/Fisherhaven area and contributes towards the provision of essential municipal infrastructure and improved service delivery.

The assessment concluded that the most significant positive impacts associated with the project include:

- Improved wastewater treatment capacity and operational performance.
- Improved environmental compliance and effluent quality.
- Protection of public health through the provision of reliable sanitation infrastructure.
- Support for future residential and economic development within the municipal area.
- Optimisation of existing municipal infrastructure and public investment.

The key potential negative impacts identified relate primarily to construction activities and include temporary vegetation disturbance, soil disturbance, dust generation, noise, increased traffic movements and potential impacts on biodiversity and nearby wetland systems. However, these impacts were assessed as being localised, temporary and capable of being mitigated to acceptable levels through the implementation of the recommended mitigation measures.

Based on the findings of the specialist studies, planning assessments and environmental impact assessment process, no fatal flaws were identified that would preclude the proposed development. The preferred property, site, activity, technology and operational alternatives were found to represent the most appropriate means of achieving the project objectives while minimising environmental impacts and maximising socio-economic benefits.

Accordingly, the EIA concludes that the proposed expansion and upgrading of the Hawston WWTW is environmentally acceptable and should be authorised subject to the implementation of the mitigation measures, management actions and monitoring requirements contained in the BAR and EMPr.

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)
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The findings of the assessment by Legacy EMC are generally conditional to the recommended impact management actions (mitigation measures) being implemented. These measures have been included in the draft EMPr and MMP for the project.

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.
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The Environmental Impact Assessment concluded that the preferred alternative, namely the expansion and upgrading of the existing Hawston Wastewater Treatment Works (WWTW), will result in several significant long-term positive impacts, while the identified negative impacts are generally localised, temporary and capable of being mitigated to acceptable levels through the implementation of the recommended mitigation measures and EMPr requirements.

Positive Impacts

Impact	Significance
Increased wastewater treatment capacity to accommodate current and future service demands within the Hawston/Fisherhaven service area.	High Positive
Improved wastewater treatment efficiency through implementation of the Enhanced Biological Phosphorus Removal (EBPR) process.	High Positive
Improved effluent quality and reduced risk of impacts on downstream aquatic ecosystems and water resources.	High Positive
Improved public health and community wellbeing through reliable sanitation services.	High Positive
Support for future residential, social and economic development identified within the Hawston/Fisherhaven growth area.	High Positive
Optimisation of existing municipal infrastructure and public investment through expansion of an existing facility rather than development of a new WWTW.	Medium to High Positive
Temporary employment opportunities and local economic stimulation during the construction phase.	Medium Positive
Improved environmental compliance and protection of receiving water resources over the long term.	High Positive

Negative Impacts and Risks

Impact / Risk	Significance Before Mitigation	Significance After Mitigation
Vegetation clearing and disturbance of modified habitat during construction.	Medium Negative	Low Negative
Temporary disturbance to fauna due to noise, movement and construction activities.	Medium Negative	Low Negative
Soil disturbance, erosion and sedimentation during earthworks activities.	Medium Negative	Low Negative
Construction dust, noise and traffic-related nuisance impacts on surrounding land uses.	Medium Negative	Low Negative

Potential contamination of adjacent wetlands or water resources from polluted runoff, spills or poor site management.	Medium to High Negative	Low Negative
Potential groundwater contamination associated with wastewater infrastructure failure or chemical spills.	Medium Negative	Low Negative
Temporary visual impacts associated with construction activities.	Low Negative	Very Low Negative
Potential odour and operational nuisance impacts associated with wastewater treatment operations.	Medium Negative	Low Negative
Generation and management of sludge and wastewater treatment by-products.	Medium Negative	Low Negative

Impacts of the Alternatives

Preferred Alternative (Upgrade and Expansion of Existing WWTW)

The preferred alternative provides the greatest long-term environmental, social and economic benefits. Although short-term construction impacts will occur, specialist studies concluded that these impacts can be effectively mitigated and do not constitute fatal flaws. The preferred alternative improves treatment performance, environmental compliance and service delivery while supporting future development in the municipal area.

No-Go Alternative

Under the No-Go Alternative, the proposed upgrade would not proceed and the facility would continue to operate in its existing configuration and capacity. While this option would avoid construction-related impacts, it would fail to realise the long-term benefits associated with improved treatment capacity and operational performance. Potential risks associated with this alternative include increasing pressure on existing wastewater infrastructure, reduced ability to accommodate future growth, and the loss of an opportunity to improve environmental performance and municipal service delivery.

Overall Conclusion

The EIA found that the majority of the negative impacts associated with the preferred alternative are construction-related, localised and temporary in nature and can be reduced to acceptable levels through implementation of the EMPr and specialist recommendations. In contrast, the positive impacts associated with improved sanitation infrastructure, enhanced wastewater treatment performance, environmental protection, public health benefits and support for future growth are significant and long-term.

The preferred alternative therefore provides the most favourable balance between environmental protection, municipal service delivery, social benefit and long-term sustainable development and is considered preferable to the No-Go Alternative.

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
The following impact management outcomes have been identified based on the findings of the specialist studies, engineering design process and environmental impact assessment and must be achieved during the construction and operational phases of the proposed expansion of the Hawston Wastewater Treatment Works (WWTW). Biodiversity Management Outcomes • Limit disturbance to biodiversity resources by ensuring that all construction activities remain within the approved development footprint. • Prevent unnecessary loss of indigenous vegetation and ecological habitat. • Prevent the spread and establishment of invasive alien vegetation within and adjacent to the development area. • Rehabilitate disturbed areas following construction to promote ecological recovery and site stabilisation. • Protect species of conservation concern and ensure compliance with applicable biodiversity legislation and permit requirements. • Minimise disturbance to fauna occurring within and adjacent to the site. Wetland and Aquatic Resource Management Outcomes • Avoid direct impacts on delineated wetland features and associated aquatic habitats. • Maintain the ecological functioning and hydrological integrity of adjacent seep wetlands. • Maintain natural drainage patterns and hydrological connectivity where practicable. • Prevent sedimentation, erosion and degradation of aquatic resources. • Ensure that stormwater discharged from the site does not result in deterioration of downstream aquatic ecosystems.	

- Prevent contamination of wetlands and watercourses by construction materials, chemicals, fuels, wastewater or polluted runoff.

Soil, Erosion and Stormwater Management Outcomes

- Prevent excessive soil erosion and loss of topsoil during construction activities.
- Ensure effective stormwater management to prevent flooding, ponding and erosion.
- Stabilise exposed surfaces and rehabilitate disturbed areas as soon as practicable following construction.
- Ensure that all stormwater infrastructure functions effectively and does not adversely affect surrounding environmental resources.

Groundwater and Water Quality Management Outcomes

- Protect the underlying groundwater resource from contamination associated with construction and operational activities.
- Prevent leakages, spillages and uncontrolled releases of wastewater, sludge or hazardous substances.
- Ensure that wastewater treatment infrastructure is operated and maintained to minimise environmental risk.
- Support improved effluent quality and compliance with applicable regulatory requirements.

Heritage Resource Management Outcomes

- Protect previously unidentified archaeological, palaeontological and cultural heritage resources that may be uncovered during construction.
- Ensure implementation of Chance Finds and Accidental Finds Procedures where heritage material is encountered.
- Ensure compliance with Heritage Western Cape requirements.

Waste and Pollution Management Outcomes

- Minimise waste generation during construction and operation.
- Ensure that all waste is appropriately stored, handled and disposed of at authorised facilities.
- Prevent pollution of soil, water resources and surrounding habitats.
- Maintain good housekeeping standards throughout the project lifecycle.

Social and Nuisance Management Outcomes

- Minimise dust, noise and visual disturbance associated with construction activities.
- Minimise nuisance impacts on nearby residents and surrounding land users.
- Ensure safe construction activities and protection of public health and safety.

Operational Management Outcomes

- Achieve the required increase in wastewater treatment capacity.
- Improve wastewater treatment performance through the implementation of the preferred EBPR treatment process.
- Maintain compliance with applicable environmental and water quality standards.
- Optimise existing municipal infrastructure and support sustainable service delivery within the Hawston/Fisherhaven service area.

Overall EMPr Outcome

The overall environmental management objective is to ensure that the expansion and operation of the Hawston WWTW is undertaken in a manner that avoids or minimises impacts on biodiversity, wetlands, groundwater, heritage resources and surrounding communities while enhancing wastewater treatment capacity, protecting environmental resources and supporting long-term municipal service delivery.

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.
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The findings of the assessment by Legacy EMC are generally conditional to the recommended impact management actions (mitigation measures) being implemented. These measures have been included in the draft EMPr and MMP for the project.

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.
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It is the professional opinion of the EAP, based on the information provided and the thorough assessment of potential impacts associated with the expansion of the Hawston WWTW, that the preferred alternative be authorised as it is the best practicable environmental option.

The environmental impacts associated with the proposed activities are not anticipated to result in unacceptable long-term impacts if the proposed mitigation and monitoring measures, as discussed in this BAR and contained in the EMPr, are

diligently implemented. The EMPr and MMP includes impact management actions and impact management outcomes for the closure phase of the facility. The implementation of the approved EMPr and adoption of the MMP should be included as a condition of authorisation.

It is therefore recommended that the proposed development should be authorised under the condition that the mitigation measures as described in the EMPr and MMP are implemented diligently and that regular compliance inspections are undertaken to ensure adherence to and implementation of the prescribed mitigation measures. An ECO must be appointed by the Applicant to monitor compliance with the EMPr and must report on the level of compliance to the competent authority(ies) by way of the submission of regular ECO Checklists.

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

The following assumptions and limitations apply to this report:

- Where data supplied by the applicant/proponent or specialist consultants, has been used, it has been assumed that the information is correct, unless otherwise stated. No responsibility is accepted by Legacy EMC for incomplete or inaccurate data supplied by or obtained from external parties.
- It is Legacy EMC's professional opinion that the adopted predictive methods are sufficient and adequate for rating the significance of the impacts during the impact assessment.
- Legacy EMC's assessment of the significance of the impacts of the proposed development on the receiving environment has assumed that the activities will be confined to the area as described in **Section B** of this BAR. If there are any substantial changes to the description of the proposed activity, impacts may need to be reassessed.
- Where detailed information is not available, the precautionary principle, i.e., a conservative approach that overstates negative impacts and understates benefits, has been adopted.
- The proponent will in good faith implement the agreed mitigation measures identified in this report and include in the EMPr. In this regard, it is assumed that the proponent will commit sufficient resources and employ suitably qualified personnel to undertake the recommended mitigation measures.
- As this is the first time the proposed project is subjected to public comment, public and authority perception of the development proposal is unknown.

Notwithstanding the above, Legacy EMC is confident that these assumptions and limitations do not compromise the overall findings of this report.

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.

The EA should be valid for 5 years. Commencement should occur within 5 years unless an extension of the period of validity of the EA is applied for. It is anticipated that the development will be concluded within 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.

Not Applicable – the application is for the expansion of the existing Hawston WWTW.

4. Waste

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

Waste Management measures during the construction phase have been incorporated into the EMPr for the project (**Appendix H**).

5. Energy Efficiency

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

The proposed expansion of the Hawston Wastewater Treatment Works (WWTW) has been designed to improve the efficiency and reliability of wastewater treatment operations through the incorporation of modern treatment processes, upgraded equipment and automated control systems. Although the primary objective of the project is to increase treatment capacity and improve effluent quality, several aspects of the design will contribute to improved energy efficiency when compared to continued reliance on aging infrastructure.

The preferred technology alternative comprises an **Enhanced Biological Phosphorus Removal (EBPR) process based on a modified University of Cape Town (UCT) configuration**, which has been designed to optimise biological treatment performance while maintaining operational efficiency. The process incorporates controlled anaerobic, anoxic and aerobic treatment zones with the aim of achieving effective nutrient removal through biological processes rather than relying solely on chemical treatment.

The design further incorporates:

- Modern pumps, mixers, aerators and mechanical equipment selected to improve operational efficiency and reliability.
- Automated control and instrumentation systems, including SCADA integration, to allow for real-time process monitoring and operational optimisation.
- New motor control centres (MCCs), electrical infrastructure and process controls that enable more efficient operation of treatment components.
- Improved sludge handling and dewatering infrastructure, reducing operational inefficiencies associated with the existing treatment system.
- Integration of new infrastructure with existing municipal assets, reducing unnecessary duplication of infrastructure and associated energy requirements.

The development also promotes resource efficiency through the optimisation of existing municipal infrastructure. By expanding the existing WWTW rather than constructing a new treatment facility elsewhere, the project makes use of existing wastewater reticulation networks, access infrastructure, electrical services and discharge infrastructure. This reduces the need for additional bulk infrastructure and the associated energy demands that would accompany the development of a completely new facility.

The proposed development furthermore contributes to climate resilience and sustainable infrastructure planning by providing sufficient wastewater treatment capacity to accommodate future demands within the Hawston and Fisherhaven service area. Appropriate sizing of treatment infrastructure reduces the risk of operational inefficiencies that can result from overloaded or underperforming treatment systems.

Accordingly, the key energy efficiency measures incorporated into the design include:

- Use of a modern EBPR treatment process to improve treatment efficiency.
- Installation of efficient pumps, mixers, aerators and associated mechanical equipment.
- Automated monitoring and process control systems to optimise plant performance.
- Upgraded electrical infrastructure and MCC systems.
- Improved sludge management and dewatering systems.
- Optimisation and continued use of existing municipal infrastructure rather than construction of a new facility.

Overall, the proposed development has been designed to improve operational efficiency and optimise energy use through the incorporation of modern wastewater treatment technology, process automation and improved infrastructure while supporting the long-term sustainability of municipal sanitation services.

TO BE PROVIDED IN THE FINAL BAR

SECTION K: DECLARATIONS

DECLARATION OF THE APPLICANT

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

I....., ID numberin 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.

Signature of the Applicant:

Date:

Name of company (if applicable):

DECLARATION OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER ("EAP")

I ...Lauren Ruth Abrahams....., EAP Registration number2019/656..... 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:

27/08/2026

Date:

Legacy Environmental Management Consulting (Pty) Ltd

Name of company (if applicable):