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**Macassar Wastewater Treatment Works, Capacity Extension and
Associated Infrastructure Refurbishment, City of Cape Town**

Prepared by: Zutari

PUBLIC PARTICIPATION ENGAGEMENT MEETING

22 November 2024

15h00 – 17h00

Making progress possible. Together.

CONTENTS OF PRESENTATION

1. **Welcome and Introduction** (Paul Zulu)
2. **Project Background** (Ammarah Baradien)
3. **Proposed Upgrade of Macassar WWTW** (Ammarah Baradien)
4. **Basic Assessment Process** (Wynand Loftus)
5. **Biodiversity Offset Process** (Bianca Bleuler)
6. **Public Participation Process** (Wynand Loftus)
7. **Project Timeframe and Role-players** (Nasief Allie)
8. **Closing** (Nasief Allie)
9. **Questions**



1. WELCOME AND INTRODUCTION



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1. Introduction

- Chairperson is Mr Paul Zulu
- Meeting register to be signed, any apologies will be noted
- Minutes will be compiled by Zutari
- Meeting purpose:
 - Disseminate information of the proposed Upgrade of the Macassar Wastewater Treatment Works (WWTW)
 - Share the Environmental Authorisation Process
 - Describe the Public Participation Process
 - Invite feedback on the presentation and other matters



2. PROJECT BACKGROUND

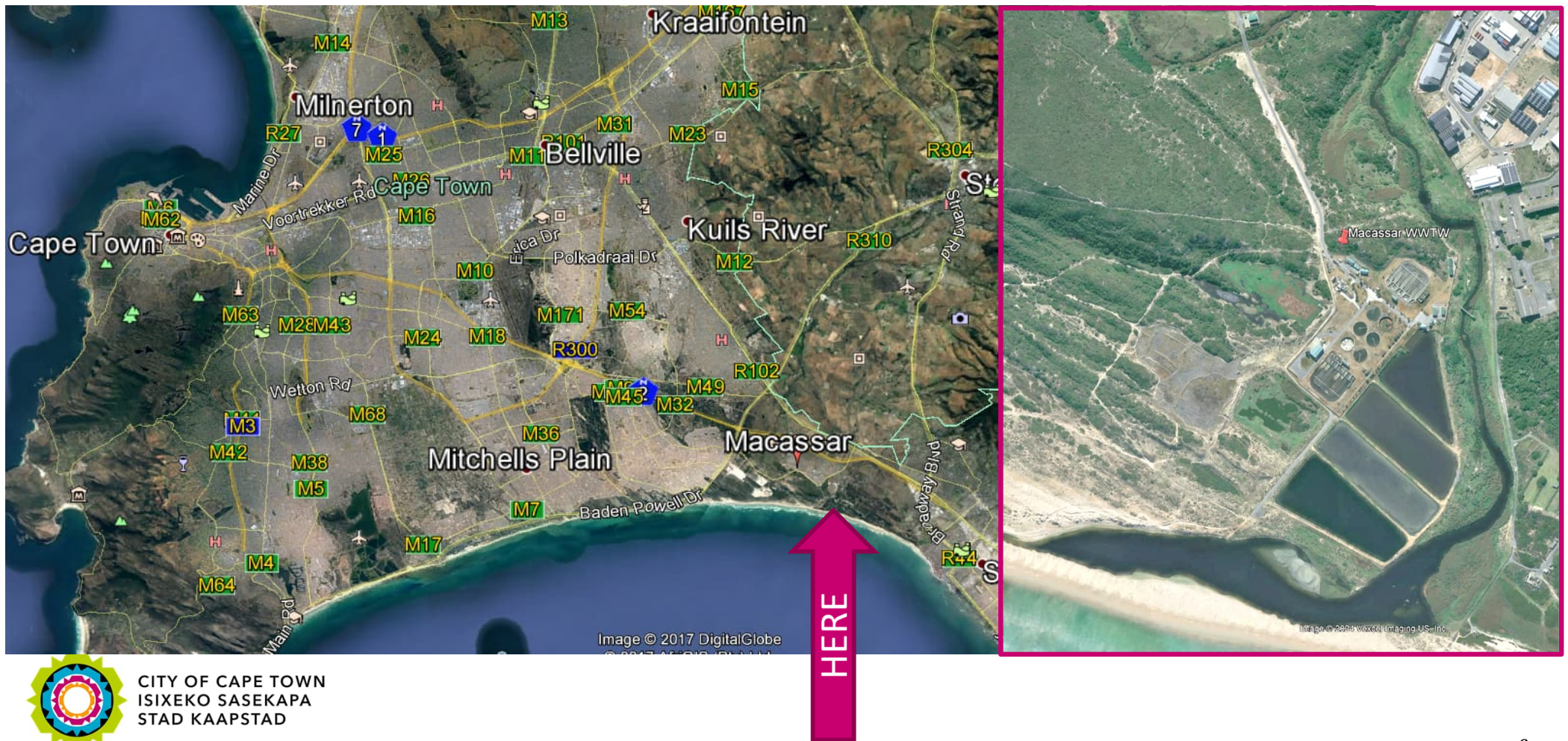


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2.1 Background

The existing Macassar WWTW is located on Erf 1205, between Khayelitsha and Strand, along the False Bay coastline. It is approximately 600m south of the town of Macassar and is located at the Eerste River Estuary.





Existing Site Layout

2.1 Background (cont.)

- The existing WWTW was constructed in circa 1977 and receives flow via the Macassar and Helderberg pump stations.
- Due to rapid urbanisation and a sustained population growth in the False Bay region, a shortfall in treatment capacity is experienced at the Macassar WWTW.
- The WWTW is also experiencing a number of operational problems which impacts effluent quality discharged into the Eerste River:
 - Aging and dilapidated infrastructure - Majority of M&E equipment has exceeded their life expectancy
 - Aeration capacity is a limitation, de-rated treatment capacity is 21.6 Mℓ/day (ADWF). However, flows exceed 30 Mℓ/day (peaks of 134 Mℓ/day) resulting in partial treatment and regular flooding of the process units
 - The existing process is not able to meet the prescribed Water Use License Standards for effluent quality.



Project Background (cont.)

Raw Intake Chamber and Inlet Works (Civil Structures)



Project Background (cont.)

Dilapidated Mechanical Equipment



Project Background (cont.)

Existing Operational Problems (flooding of the site during peak flows)



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Project Background (cont.)

Existing Operational Problems (flooding of the site during peak flows)



Inlet works flooding



Splitter boxes overflowing



Spillages at SST's area



2.2 Project Objectives of the Proposed Upgrade

The overall aim of this project includes the upgrade and capacity extension of the existing WWTW which will include the refurbishment of select infrastructure and an extension to the treatment capacity from 48 Ml/day to **80 Ml/day** (ADWF).

- The upgrade will **remove capacity limitations** on the existing process and increase the treatment capacity to cater for flows from future development
- **Superior treated effluent quality** discharged into the Eerste River that complies with the Water Use License Discharge Limits (current and future requirements) and Green Drop Assessments
- Promote the **reuse of treated effluent** to surrounding communities for irrigation purposes and other non-drinking use
- Promote **energy efficiency** and reduce the impact of Green House Gas emissions
- Promote the use of **green energy** (i.e., energy recovery)



3. PROPOSED UPGRADE OF MACASSAR WWTW



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3. Proposed Upgrade of Macassar WWTW

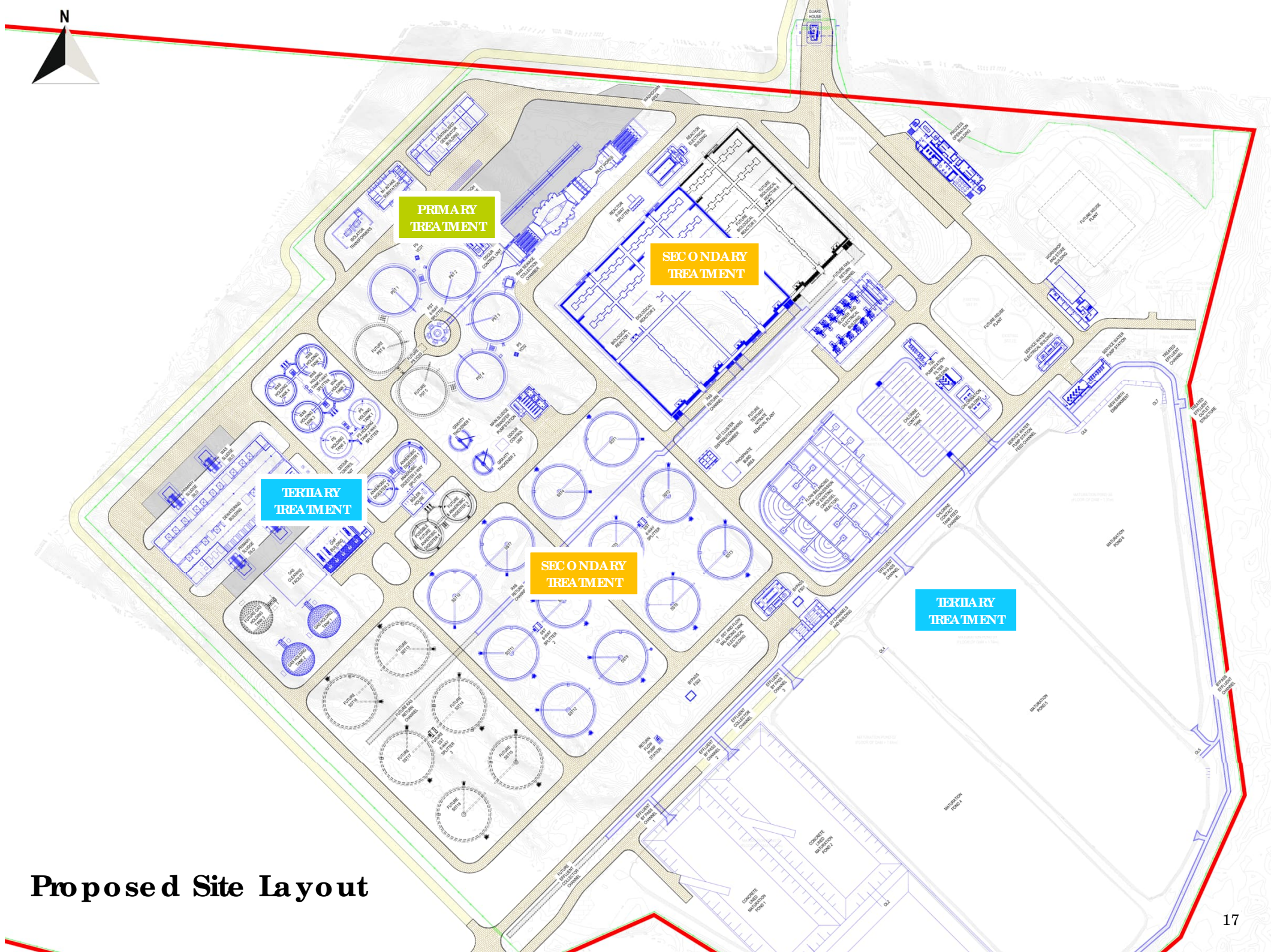
The proposed upgrade and extension of the works to 80Mℓ/day includes the following infrastructure:

- **Primary Treatment**
 - New Inlet Works
 - New Primary Settling Tanks
- **Secondary Treatment**
 - New Biological Reactors
 - New Secondary Settling Tanks
- **Tertiary Treatment**
 - New UV and chlorine disinfection
 - Modifications to the existing maturation ponds and new river outlet
 - New Sludge handling facilities (thickening, anaerobic digestion, dewatering and combined heat and power facility)
- **Other**
 - Odour control and odour removal technology
 - Various new pump stations and electrical buildings
 - New process operations building, workshop and store and guardhouse
 - New civil infrastructure (including road and paved areas)
 - Improved site security (access control, security and fencing)





Existing Site Layout



Proposed Site Layout

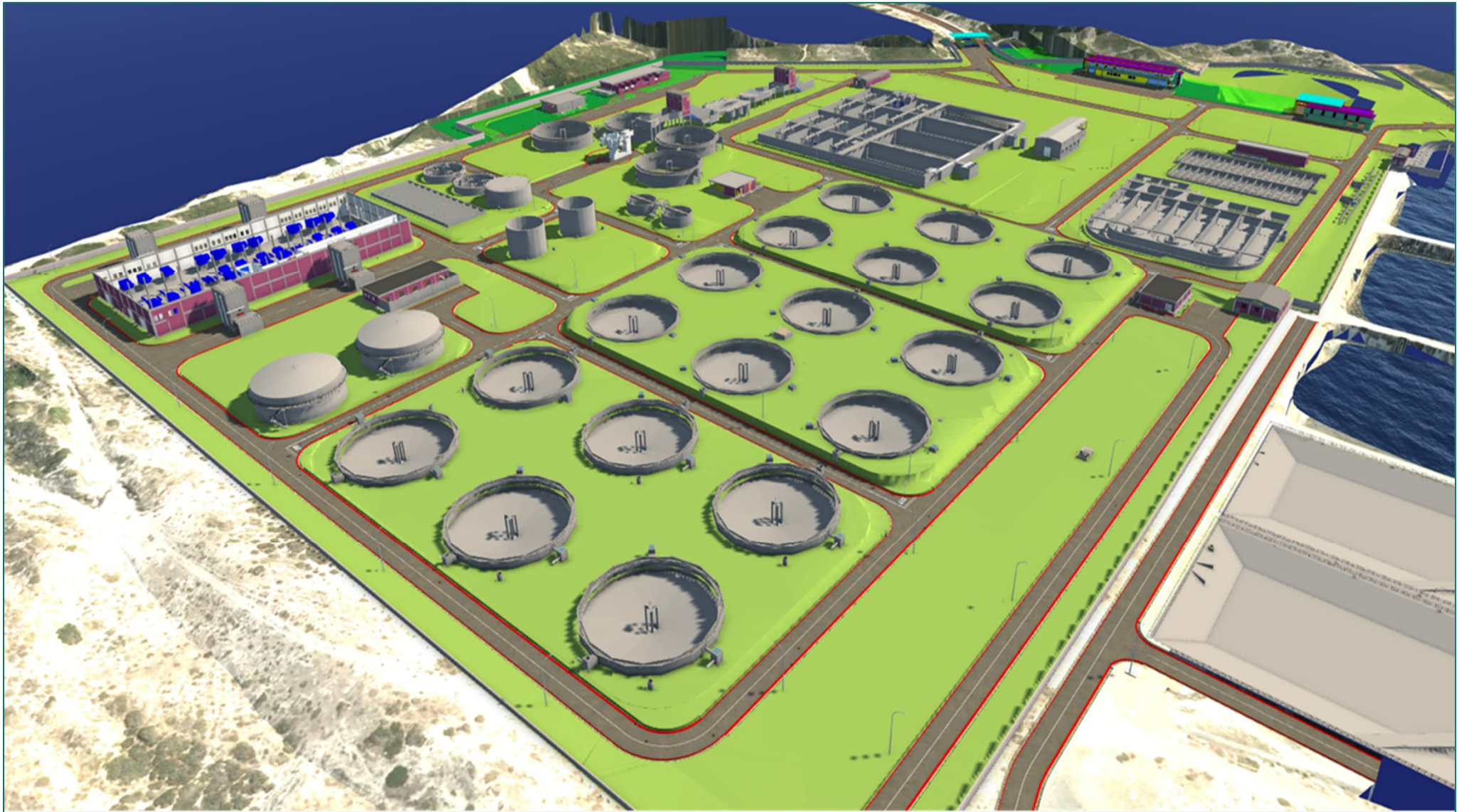


Existing Site and
Proposed Site Layout

Proposed Site Layout (3D Model)



Proposed Site Layout (3D Model)



4. BASIC ASSESSMENT PROCESS



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4.1 Basic Assessment Process: Existing Environmental Authorisation

- On the 07 July 2016, the Department of Environmental Affairs and Development Planning issued an Environmental Authorisation (EA) to the City of Cape Town approving the proposed upgrade and expansion of the Macassar Wastewater Treatment Works (WWTW) and associated infrastructure (**design capacity of 80ML/day**) on the basis that they were necessary to continue to provide essential wastewater treatment services to the surrounding community.
- Due to the time that has passed since the approval in 2016, new design engineers have been appointed to finalise the detailed design. The design engineers have identified alternative technology options that will enable the works to run more efficiently and improve the quality of the effluent being discharged to the estuary and implement odour control measures.

4.2 Basic Assessment Process: Current Process

- The current Basic Assessment (BA) process is undertaken in terms of regulations 19 and 20 of the 2014 NEMA EIA Regulations (as amended) as listed activities from Listing Notice 1 and 3) are triggered.
- The proposed revision to the design upgrades will require the clearance of more than 1ha of indigenous vegetation, which includes Endangered Cape Flats Dune Strandveld vegetation. Therefore, Listing Notice 1, Activity 27 and Listing Notice 3 Activity 12 is being applied for.
- Furthermore, an application is made to amend the previous EA dated 7 July 2017. This amendment should include the new project scope and description.
- A separate Water Use License Amendment Application process is also followed in terms of the Water Act. The amendment application was done for 80ML/day capacity.

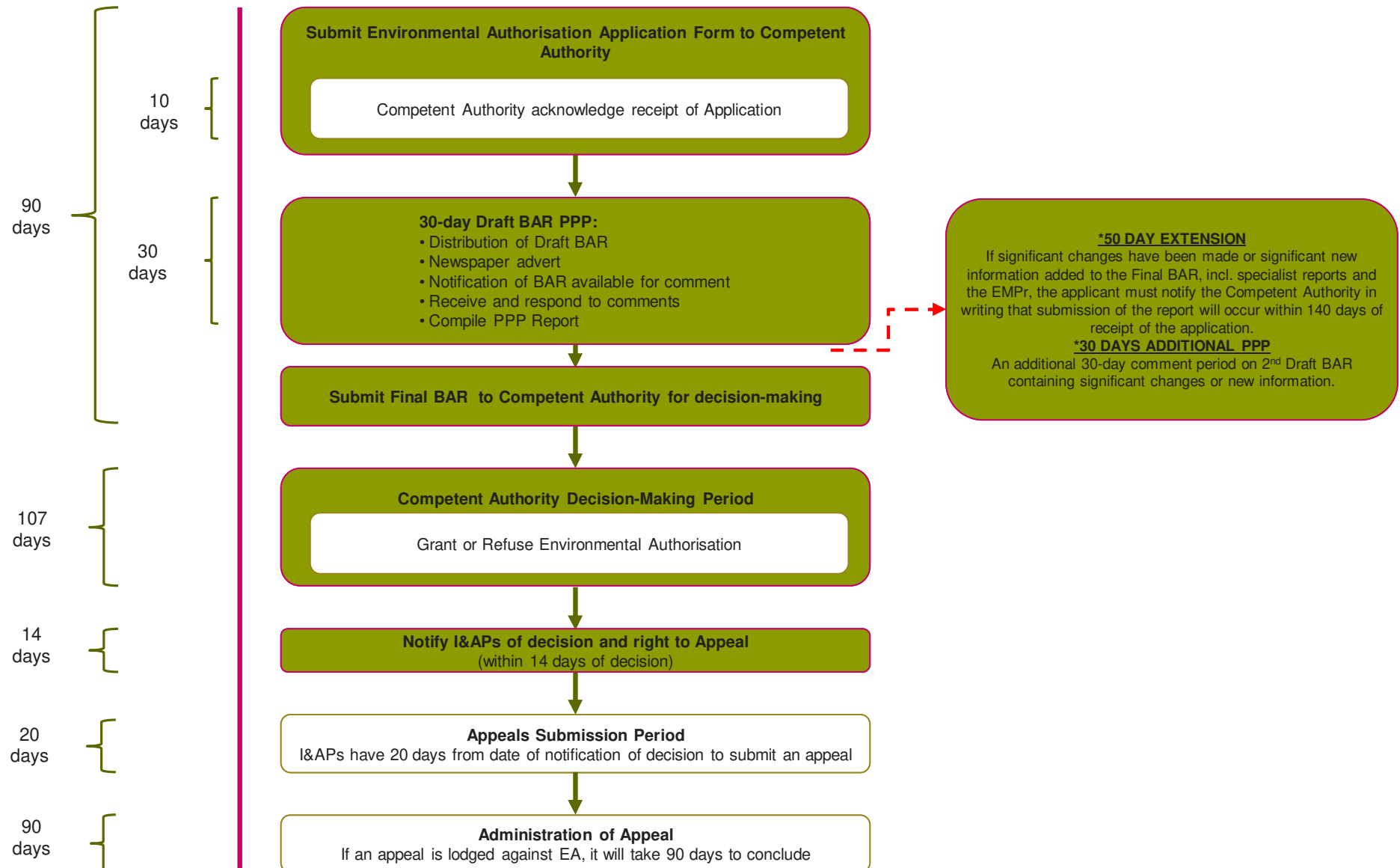


4.3 Basic Assessment Process: Key dates

- **07 May 2024** - The BA Application form was submitted to Department of Environmental Affairs and Development Planning (DEA&DP)
- **11 September 2024** - Department of Forestry, Fisheries and the Environment (DFFE) confirmed receipt and accepted the application form.
- **31 October 2024** - Hard copy of the Draft BAR was made available at the Macassar Library and a digital copy available online.
- **31 October 2024** - Notification of potential I&APs, affected landowners, neighbouring landowners and state departments of availability of the Draft BAR for review and comment.
- **29 November 2024** - Last day to submit comment on Draft BAR.
- **Early December 2024** - Submit Final BAR to DEA&DP.
- **2025** - DEA&DP to provide decision on application (107 days from date of submission of Final BAR to issue decision).
- **2025** - Notification to registered I&APs of DEA&DP decision and appeal process.



4.4 Basic Assessment Process: NEMA Time frames



4.5 Specialist Investigations and Inputs

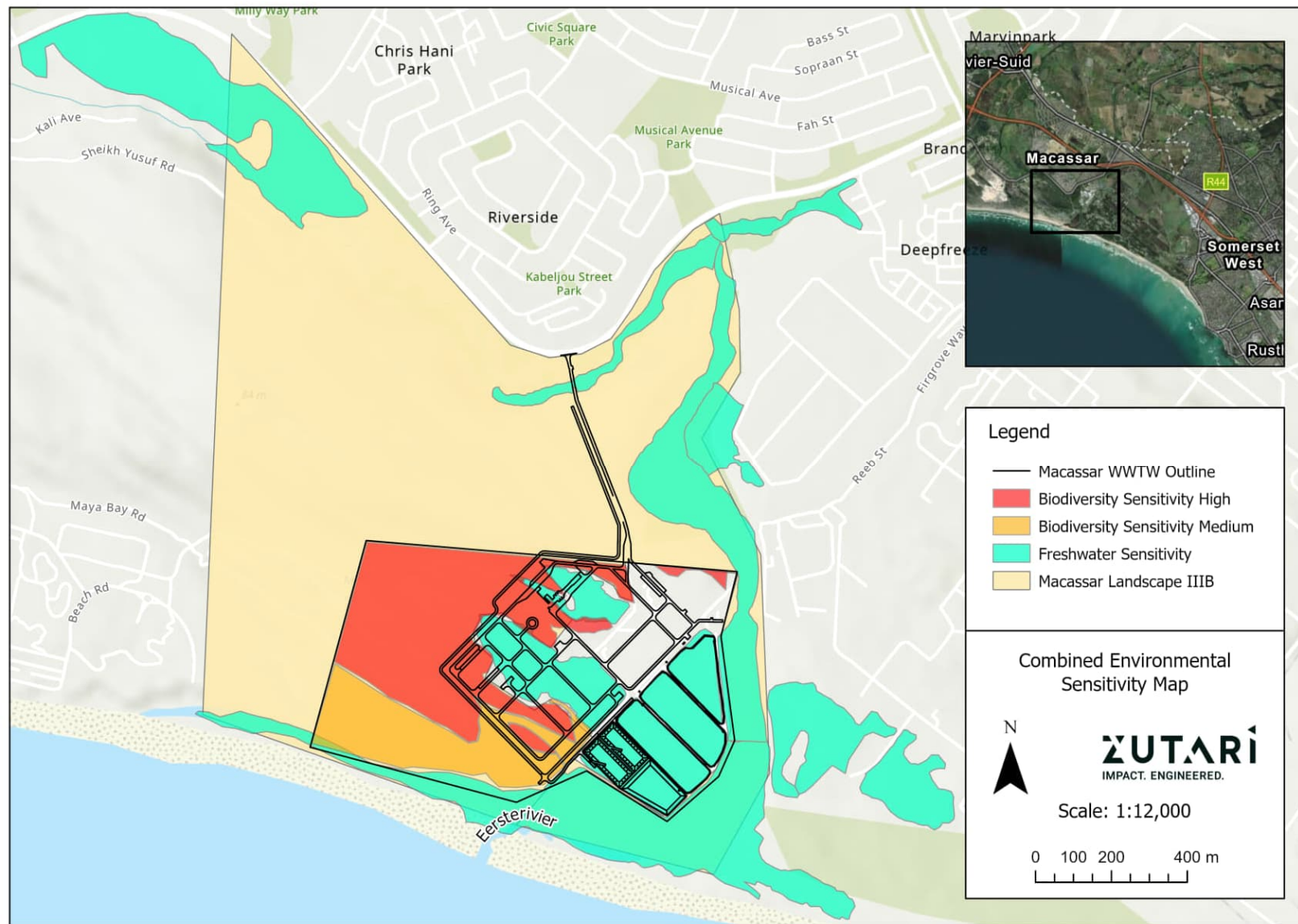
- Basic Assessment
 - Agricultural Statement
 - Terrestrial Biodiversity Impact Assessment
 - Heritage Impact Assessment
 - Aquatic Ecology
 - Geotechnical Investigation
 - Defense Statement
- Biodiversity Offset Study
- Sensitivity Mapping



4.6 Affected Environment



4.7 Environmental Sensitivity



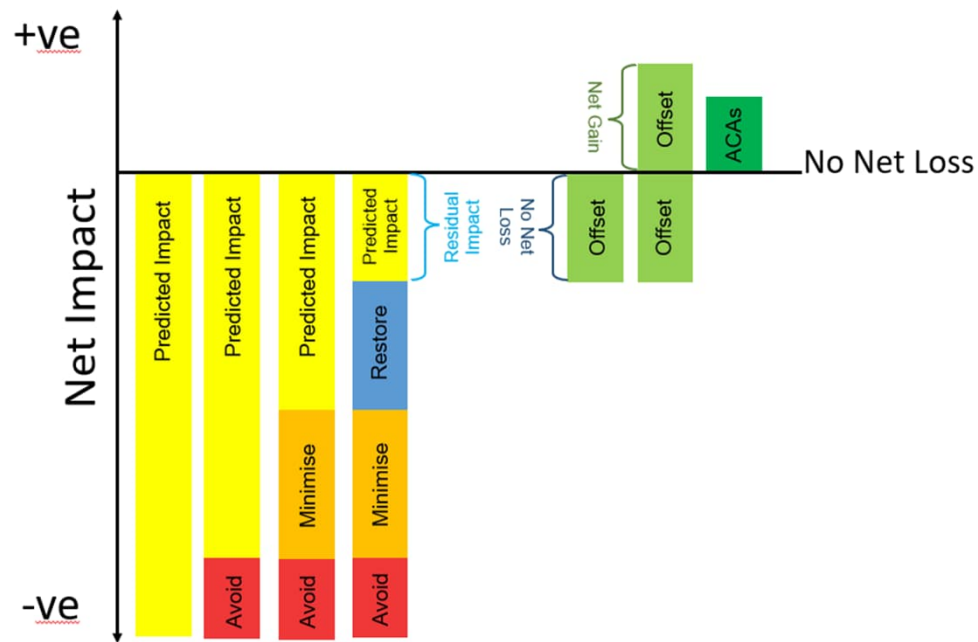
5. BIO DIVERSITY O F F S E T P R O C E S S



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5.1 Overview: Offsets & Mitigation Hierarchy



Depiction of the mitigation hierarchy and where offsets and additional conservation actions (ACAs) fit into the overall goal of achieving NPI. Image adapted from Temple et al., (2012).

Temple, H.J., et al. (2012). Biodiversity Offsetting: Policy and Practice. Gland: IUCN.

- **Environmental offsetting** provides a means by which to slow – and possibly even reverse – “ecological deficit” by counterbalancing the degradation, destruction, and depletion of natural resources through protection, rehabilitation, restoration and replenishment.
- Offsets are not only a means of **compensating for lost habitat** but also a critical tool for maintaining the ecological integrity and long-term security of priority biodiversity and ecosystem areas.
- According to the 2023 Biodiversity Offset Guidelines, offsets for both terrestrial and freshwater ecosystems, including wetlands, are vital for sustaining biodiversity and the ecosystem services that these habitats provide.



5.2 Offset Alternatives Analysis

Both on-site and offsite offset options, were initially evaluated on a desktop basis as potential offset sites. Eight options were identified as potential candidate sites (given their location within specific vegetation types, associations with the National Protected Area Expansion Strategy (NPAES), proximity to protected area (as per the South African Protected Area Database (SAPAD), etc. The three “chosen” offset sites are:

- **Option 1** - An on-site offset option, encompassing approximately **25.0 ha**, which is located within the same property as the proposed WWTW. This site is owned by the proponent;
- **Option 7** - An offsite offset option, encompassing approximately **53.53 ha**, located ~ 3.7 km east of the WWTW. This land is state-owned; and
- **Option 8** - An offsite offset option, encompassing 824 ha, which forms part of the CoCT's Burgherspost offset land bank and is located ~ 65 km northwest of the WWTW. This land is currently under procurement by the City to be used as a land bank. Note: only the necessary hectarage would be offset using this option.



Table: Alternatives analyses for offset and compensation

Criterion	Option 1	Option 7	Option 8
Like-for-like (Figures 6 - 9)	Ideal (4)	Ideal (4)	Acceptable (3)
Conservation Planning (Figures 10 – 13)	Ideal (3)	Acceptable (2)	Ideal (4)
Habitat Condition	Acceptable (2)	Acceptable (2)	Acceptable (2)
Local Biodiversity Value	Acceptable (2)	Acceptable (2)	Ideal (3)
Long-term Ecological Viability (Figures 14 - 18)	Acceptable (3)	Acceptable (3)	Ideal (4)
Land-legal Viability	Ideal (4)	Ideal (4)	Ideal (4)
Rehabilitation Opportunities/Potential	Ideal (3)	Ideal (4)	Ideal (4)
Total score	21	21	24



OFFSET OPTIONS LOCALITY

Offset Options

- Option 1
- Option 2
- Option 3
- Option 4
- Option 5
- Option 6
- Option 7
- Option 8



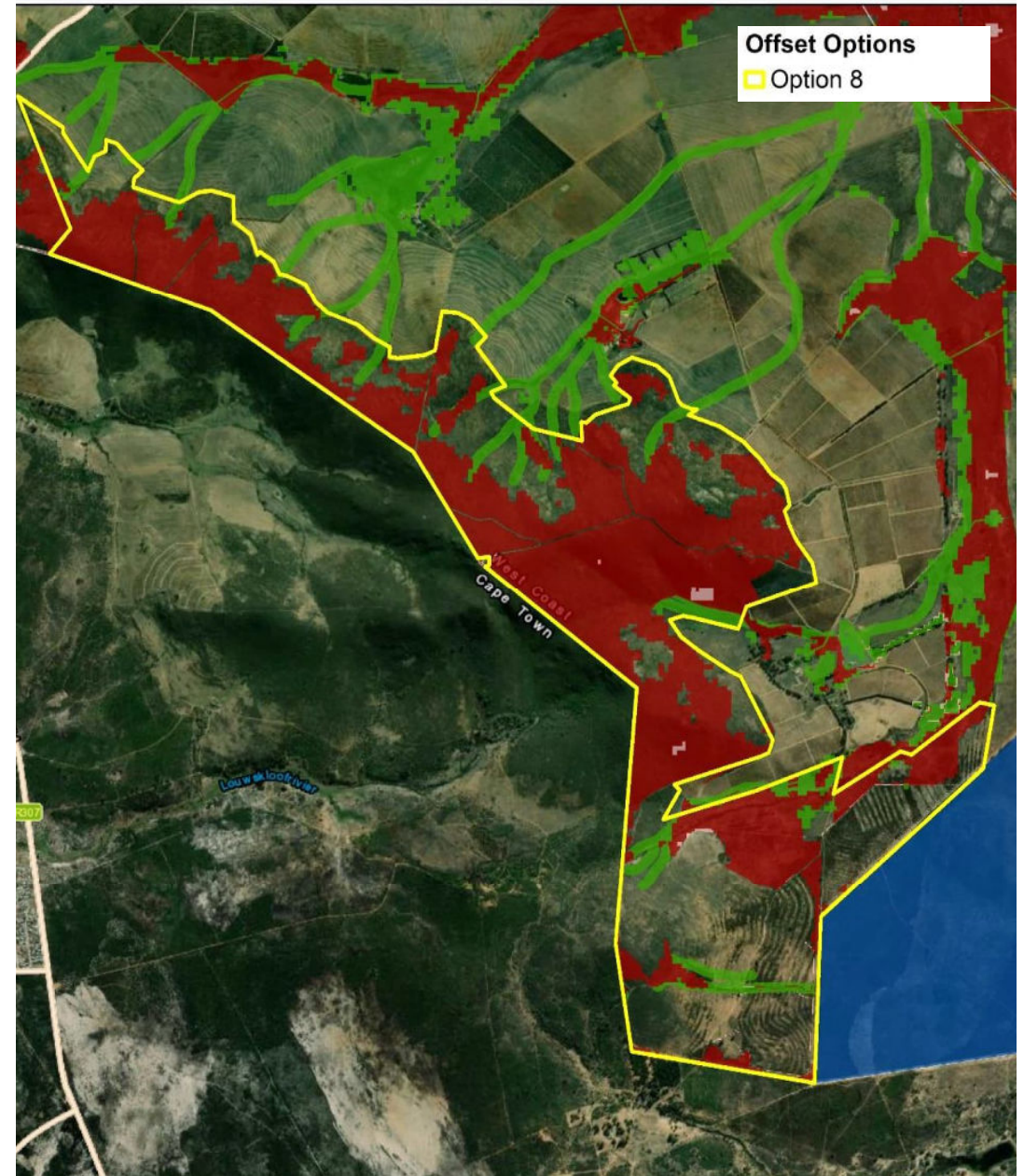
0 8 16 km

Project No: STS 24-2052 Projection: LATLONG
Date: October 2024 Datum: WGS84



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5.3 Offset Quantum Analysis & Gains

From the offset quantum analysis, it was established that **176.25 ha** of Cape Flats Dune Strandveld habitat is needed to be compliant with the biodiversity offset guidelines of 2023.

Table: Summary of biodiversity offset gains.

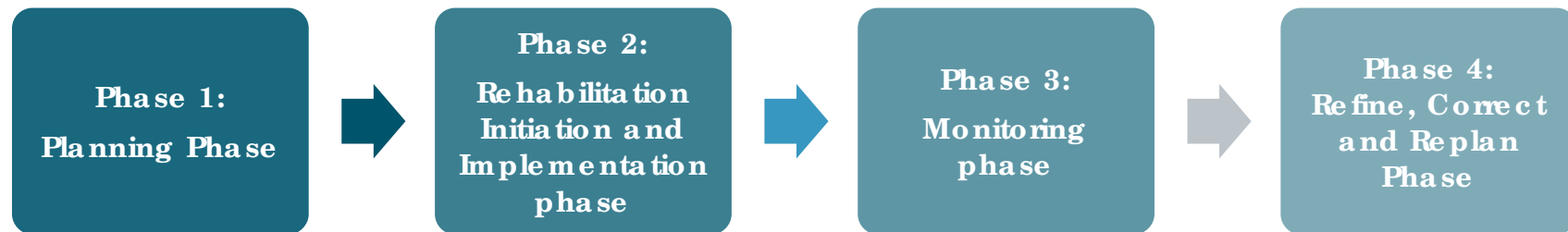
Criteria	Target Offset Area	Aspect	Adequate qualification in meeting or exceeding the target
Like-for-like offset	Options 1 and 7	Cape Flats Dune Strandveld (EN)	✓
Trade-up	Option 8	Swartland Granite Renosterveld (EN)	✓
Proclamation of Nature Reserve	Option 8	Potential proclamation of a Nature Reserve	✓

Several factors make the Target Offset Area (encompassing Offset Options 1, 7 and 8) a highly suitable choice for achieving the long-term conservation goals associated with the project.



5.3 Biodiversity Offset - Next Steps

Rehabilitation and Management Framework for the WWTW Offset Project.



- Rehabilitation and Management Framework development for the selected offset sites.
- Given the varied ecological condition of each Offset Option, different / more / less intensive rehabilitation activities may be required for each Option.



6. PUBLIC PARTICIPATION PROCESS



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6.1 Public Participation Process

- **Written notice** – Written notices have been sent to registered I&APs. This notification will inform the reader of the availability of the draft BAR, where and when to access it and where to send a comment. Written notices were distributed via email and posted letters where email addresses were not available
- **Site Notices** – The availability of the Draft BAR was advertised via sixteen (6) site notices placed at the WWTW and route of the proposed Eskom cable.
- **Newspaper advert** – The availability of the Draft BAR was advertised in the ‘Distrikpos’ newspaper on 30 October 2024 and informed the public of the public participation opportunities and the availability of the Draft BAR for comment.
- **Engagement meeting** – 22 November: Old Macassar Community Hall



6.2 Links to information

Comment period: The Draft BAR is available for comment for 30-days from 30 October 2024 to 29 November 2024. The electronic copy to the draft BAR is accessible at the following locations:

- Zutari website or QR code below:
<https://www.zutari.com/macassar-wwtw-public-participation/>
- A hard copy of the Draft BAR has been made available at **Macassar Public Library, 10 Bind Avenue, Macassar**
- If you wish to register as an Interested and Affected Party and/or submit comments or concerns, please do so in writing by either using the online registration at the above link or QR code below or email the following address: **ppp@zutari.com**
- If necessary, you may also register telephonically during office hours with **Marianna Taljaard or Corie Steyn at +27-44-805-5410 / 5400**



7. PROJECT TIMEFRAME AND ROLE-PLAYERS



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7. Project Timeframe and Role-players

Project Timeframe:

- Anticipated Construction Commencement: **September 2025**
- Anticipated Construction Completion: **February 2030**



Contract Participation Goals:

In line with the tender requirements where contract participation goals were specified:

- During the construction phase of the project, there will be job opportunities for local labour who are registered on the CoCT's Databases (Sub-Council Job-Seekers Database & EPWP Database). This will be facilitated by an appointed Community Liaison Officer and the respective ward councillors, however the appointment of local labour will be through the Principal Contractor.
- Tender specifically allows “Participation of Targeted Enterprises” from the project area
- Tender specifically allows “Participation of Targeted Local Labour” from the project area



7. Project Timeframe and Role-players

The following parties are involved in the upgrade and extension of the Macassar WWTW:

- City of Cape Town,
- Zuta ri (Consulting Engineers and Environmental Assessment Practitioner)
- Scientific Terrestrial Services (Biodiversity Offset Specialist)
- Two Construction Contracts:
 - Civil Contractor (Contract still to be awarded)
 - Mechanical and Electrical Contractor (Contract still to be awarded)



8. CLOSING



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8. Closing

In closing:

- The project is critical for meeting current and future sanitation demands in the catchment area
- The project is critical for future development in the Macassar WWTW catchment area. This will trigger economic and socio-economic benefits which will have a positive long-term impact on the surrounding communities
- Ensuring suitable treatment of wastewater generated within the City which will ensure the preservation of the Eerste River which is vital for the livelihood of surrounding communities and the protection of the sensitive Eerste River Estuary

The successful implementation of this project will realise in the delivery of a functional, greener and sustainable wastewater solution



9. QUESTIONS

THANK YOU



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