

SWELLENDAM MUNICIPALITY AIR QUALITY MANAGEMENT PLAN



TABLE OF CONTENTS

LIST OF FIGURES	3
LIST OF TABLES	3
ABBREVIATIONS	4
DEFINITIONS	5
ACKNOWLEDGEMENTS	7
1. INTRODUCTION AND BACKGROUND	8
2. PURPOSE	9
2.1 Purpose of the AQMP	9
2.2 The AQMP Development process	10
3. VISION OF THE AQMP	11
4. MISSION OF THE AQMP	11
5. GOALS OF THE AQMP	11
6. STATUS QUO OF THE AQMP	12
6.1 Current Institutional Capacity	12
6.2 Air Pollution Sources	12
6.3 Air Quality Monitoring	13
6.4 Air Quality Enforcement	13
7. GAPS AND CHALLENGES	13
8. AQMP OBJECTIVES	14
8.1 Effective air quality management	14
9. MONITORING	15
10. EVALUATION	15
11. REVIEW	15
12. IMPLEMENTATION PLAN	17
13. CONCLUSION	20
14. PUBLIC PARTICIPATION	20
15. REFERENCES	22

LIST OF FIGURES

Figure 1: Location of Swellendam Municipality in the Overberg District Municipality

Figure 2: The process followed to develop the AQMP

LIST OF TABLES

Table 1: Population growth, 2001 – 2023 for the Swellendam Municipal area

Table 2: AQMP implementation plan for the Swellendam Municipality

ABBREVIATIONS

APPA:	Atmospheric Pollution Prevention Act
AQMP:	Air Quality Management Plan
AQO:	Air Quality Officer
AQOF:	Air Quality Officers Forum
DEA&DP:	Department of Environmental Affairs and Development Planning
EMI:	Environmental Management Inspector
IDP:	Integrated Development Plan
NOx:	Oxides of Nitrogen
ODM:	Overberg District Municipality
NGOs:	Non-governmental Organisations
SDF:	Spatial Development Framework

DEFINITIONS

“Air pollutant” means any substance (including but not limited to dust, smoke, fumes and gas) that causes or may cause air pollution;

“Air pollution” means any change in the environment caused by any substance emitted into the atmosphere from any activity, where that change has an adverse effect on human health or well-being or on the composition, resilience and productivity of natural or managed ecosystems, or on materials useful to people, or will have such an effect in the future;

“Air Quality Act” means the National Environment Management: Air Quality Act, 2004(Act No. 39 of 2004);

“Air quality management plan” means the air quality management plan referred to in section 15 of the Air Quality Act and **“AQMP”** has the same meaning;

“Air quality officer” means the air quality officer designated as such in terms of section 14(3) of the Air Quality Act;

“Ambient air” means **“ambient air”** as defined in section 1 of the Air Quality Act;

“Atmosphere” means air that is not enclosed by a building, machine, chimney or other similar structure;

“Atmospheric emission” or **“emission”** means any emission or entrainment process emanating from a point, non-point or mobile source that results in air pollution;

“Authorised person” means any person authorised by the municipality to implement any provision of the AQMP;

“Council” means the Council of the Municipality or any of the other political structures, political office bearers, councillors or staff members, of the Municipality duly authorised by delegation;

“Environment” means the surroundings within which humans exist and that are made up of:

- (a) the land, water and atmosphere of the earth;
- (b) micro-organisms, plant and animal life;
- (c) any part or combination of (a) and (b) and the interrelationships among and between them; and
- (d) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being;

"Municipality" means the Municipality of Swellendam, established in terms of Section 12 of the Local Government: Municipal Structures Act, 1998 (Act 117 of 1998), and includes any political structure, political office bearer, councillor, duly authorised agent or any employee acting in connection with this By-law by virtue of a power vested in the Municipality and delegated or sub-delegated to such political structure, political office bearer, councillor, agent or employee;

“Systems Act” means the Local Government: Municipal Systems Act, 2000 (Act No. 32 of 2000);

“NEMA” means the National Environmental Management Act, 1998 (Act No.107 of 1998);

ACKNOWLEDGEMENTS

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- Mr D. du Plessis, the Director: Corporate Service, Mr W. Hattingh, the Manager Town Planning and Building Control, Mr H. Human, the Law Enforcement Officer, and other administrative staff in finalising this document.
- Overberg District Municipality.
- Directorate: Air Quality Management Department of Environmental Affairs and Development Planning, Western Cape Government.

1. INTRODUCTION AND BACKGROUND

The Swellendam Municipality is situated in the Overberg District (ODM), it is well known for its location at the foot of the Langeberg mountain range and it is seen as the gateway between the Overberg and the Eden Districts. The Swellendam Municipal area is the second largest Municipal area in the Overberg region and covers a geographical area of 3001 km² (Statistics South Africa, 2011; Western Cape Provincial Treasury, Regional Development Profile, 2014). The greater Swellendam Municipal area comprises of the town of Swellendam and the villages of Barrydale, Suurbraak, Malagas, Buffeljagsrivier, Wydgeleë (Ouplaas), Akkerboom (Op de Tradouw), Infanta and Stormsvlei. Swellendam is linked with other urban and rural areas mainly through the N2 National Road.

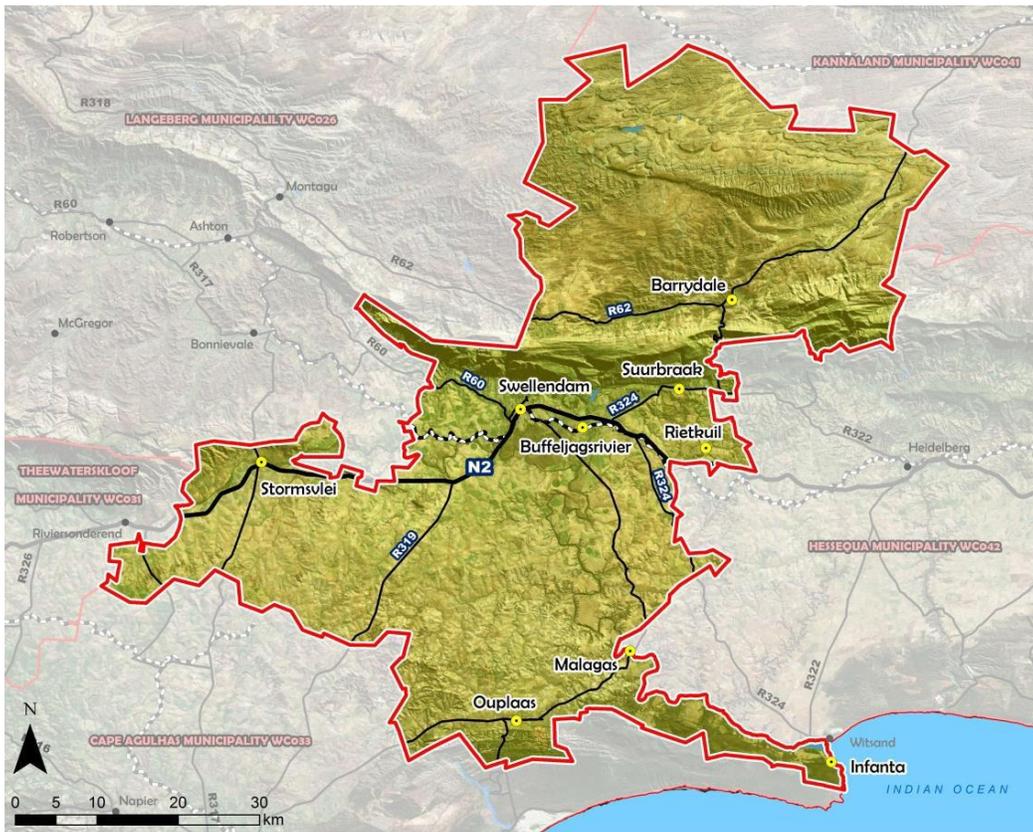


Figure 1: Location of Swellendam Municipality in the Overberg District Municipality

The area has the main railway line which links Cape Town with the Garden Route. The R324 road links Swellendam with Barrydale through the well-known Tradouw Pass. The R62 road has become a well-known tourist route, which links Barrydale with Montagu and Oudtshoorn. The R60 road links Swellendam with towns like Ashton, Montagu and Robertson and forms an important link between the N1 and N2 tourism routes. The towns of Swellendam and Suurbraak have a rich historical and cultural heritage. In Swellendam

many old buildings, dating back to the 18th century, are found. The Suurbraak is an old mission station near the foot of the Tradouw Pass and its origin dates back to 1812. The climate for the Swellendam area is warm during the summers with summer rains and very wet winters. Swellendam on average receives about 462 mm of annual rainfall, with substantial rainfall occurring throughout the year particularly in winter. It receives the lowest rainfall (23 mm) in December and the highest (48 mm) in August (http://www.saexplorer.co.za/south-africa/climate/swellendam_climate.asp)

The Swellendam Municipality has a population of 35916 (Census, 2011) and covers an area of 3001 km² (Statistics South Africa, 2011; Western Cape Provincial Treasury, Regional Development Profile, 2014). The Municipal area is made up of socially and racially diverse communities and is divided into five (5) wards, comprising of the town of Swellendam and the villages of Barrydale, Suurbraak, Malagas, Buffeljagsrivier, Wydgeleë (Ouplaas), Akkerboom (Op de Tradouw), Infanta and Stormsvlei.

Table1: Population growth, 2001 – 2023 for the Swellendam Municipal Area [Source: Swellendam Spatial Development Framework (SDF) 2015]

2001	2011	Growth rate Historical	Growth rate Future	2013	2023	Increase
28285	35916	2.4%	2.4%	37661	47834	10177

2. OBJECTIVES

2.1 Purpose of the AQMP

Section 15(2) of the National Environmental Management: Air Quality Act – 39 of 2004 (hereafter referred as the Air Quality Act) requires each Municipality to include an AQMP in its Integrated Development Plan (IDP). The AQMP will determine what will be done to achieve the prescribed air quality standards.

As detailed in the Act a local Municipality has two primary statutory obligations with which it must comply and these two obligations are:-

- i. designate an Air Quality Officer (AQO)
- ii. incorporate an AQMP in its IDP

The air quality management function within the Swellendam Municipality resides under the Town Planning and Building Control divisions of the Corporate Services Department, with the Inspector: Environmental Monitoring and Compliance designated as the Air Quality Officer.

Prior to the promulgation of the Air Quality Act permits used to be issued by the National Government in terms of the Atmospheric Pollution Prevention Act – 45 of 1965 (APPA). The district and the local Municipalities had little or no input in relation to the issuing of these permits. In the district and local Municipality's air quality issues were restricted to the investigation of complaints and dealing with the complaints in terms of local By-laws and land use planning. This resulted in a lack of skills in the field of air quality management at Municipal level. The AQMP must acknowledge these shortcomings and set objectives within the plan and must focus on addressing issues of capacity building.

This AQMP for the Municipality has thus been developed to comply with the Act and more specifically to provide guidance on Air Quality Management in the Municipal area. Air quality is defined to include noise and odour and addresses all sources of air pollution such as point, area and mobile sources.

2.2 The AQMP Development Process

Public participation and cooperative governance is essential for the development of an AQMP development process. An Air Quality Forum was established between the District Municipality and the four (4) local Municipalities to provide technical guidance and to assess the state of air quality and the institutional capacity for air quality management in the Overberg area.

The process to develop an AQMP can best be described by the following:

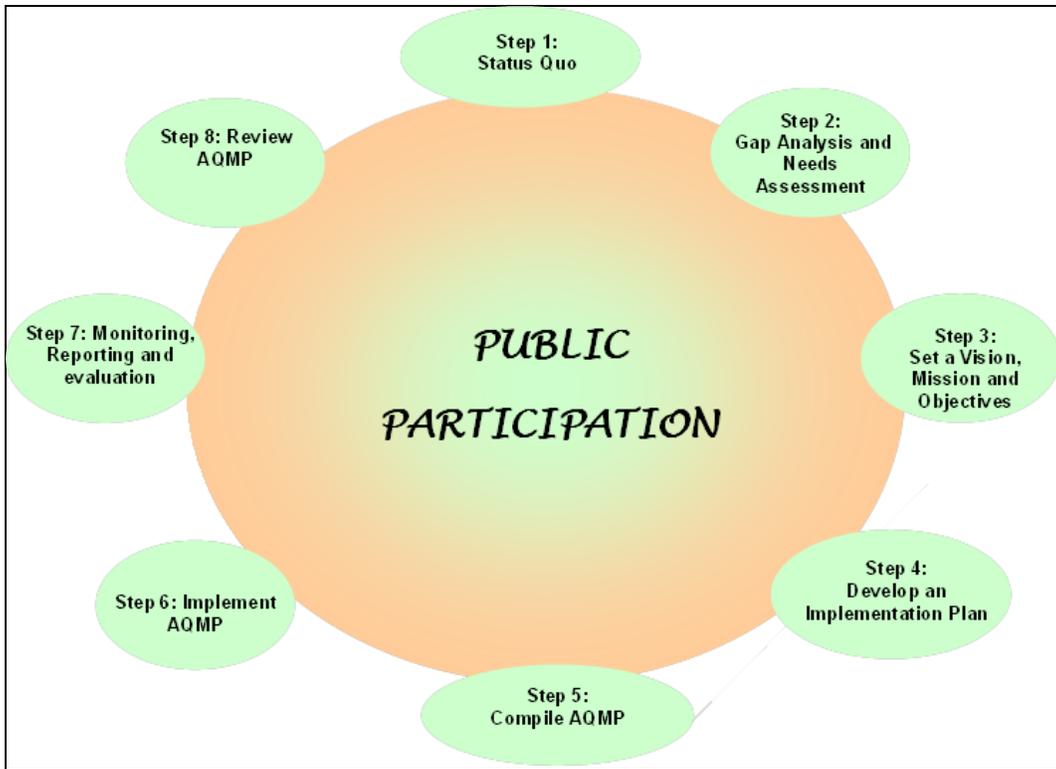


Figure 2: The process followed to develop the AQMP

3. VISION OF THE AQMP OF SWELLENDAM MUNICIPALITY

To be a Municipality where the constitutional right of all human beings to clean air is maintained to such a standard where economic and social development will flourish without jeopardizing the environment and the cultural heritage of the area.

4. MISSION OF THE AQMP

To ensure effective and consistent implementation of sustainable air quality management practices throughout the Municipal area to progressively achieve air quality goals.

5. GOALS OF THE AQMP

The goals of the AQMP are to support the vision and mission of Swellendam Municipality with specific focus on a safe and healthy environment and good governance by:

- i. Ensuring effective and consistent air quality management.
- ii. Continuous engagement with stakeholders in order to raise awareness with respect to air quality.
- iii. Ensuring effective and consistent compliance, monitoring and enforcement.
- iv. Supporting climate change protection programmes, including promoting the reduction of greenhouse gas emissions
- v. Promoting communication in relation to air quality management
- vi. Developing good inter-governmental relations with the ODM and the Provincial Government Western Cape to enhance air quality management in the Swellendam Municipal area.
- vii. Minimizing the negative impacts on human health and well-being and on the environment in the Swellendam Municipal area.

6. STATUS QUO OF AIR QUALITY MANAGEMENT IN THE SWELLENDAM MUNICIPALITY

6.1 Current Institutional Capacity

The Inspector: Environmental Monitoring and Compliance is also the designated as the AQO. The incumbent of this post is also responsible for general law enforcement with regard to town planning, building control, overgrown properties and general nuisance matters. Therefore capacity to perform the duties of an AQO is very limited and needs to be expanded as the demand for air quality management increases. The ideal would be to have shared services and in this regard the assistance of the Provincial Government is of utmost importance.

6.2 Air Pollution Sources in the Municipal Area

Potential air pollution sources have been identified as:

- i. Industrial operations especially in Swellendam such as oil extracting, clay brick manufacturing, sandblasting, saw mills and stone crushers.
- ii. Agricultural activities such as crop burning and spraying.
- iii. Biomass burning (veld fires).
- iv. Domestic fuel burning (wood and paraffin).
- v. Vehicle emissions.
- vi. Waste treatment and disposal.

- vii. Dust from unpaved roads.
- viii. Other fugitive dust sources such as wind erosion of exposed areas.

There are few sources of air pollutants in the Municipal area. The ambient air quality is generally good however, emissions from brickyards, saw mills, sandblasting and stone crushing operations are likely to result in local areas of elevated concentrations of air pollutants. Ambient particulate matter concentrations are likely to be high in low-income residential areas where wood is used as a primary fuel source. The motor vehicle congestion along the N2 and R60 roads results in elevated ambient concentrations of particulates and Nitrogen Oxides (NOx) at times.

6.3 Air Quality Monitoring

The Provincial Government assisted the Municipality with air quality monitoring. An overall perspective of the sample analysis indicated that the pollution levels are low within the Municipal area.

Gas detection exercises are undertaken on a regular basis at the Bontebok waste disposal site by the Department of Environmental Affairs and Development Planning (DEA&DP). According to a gas detection exercise in June 2015 no level of concern has been detected at the waste disposal site. It was however recommended that if the volume concentration of 0.1% of methane gas increases, the Municipality should put measures in place to monitor the level at the facility.

6.4 Air Quality Enforcement

The Municipal By-law on Air Quality Management has been promulgated on 5 December 2014.

7. GAPS AND CHALLENGES

- i. Clarity should be gained on the roles and responsibilities of air quality management between the Municipality and the ODM.
- ii. The ODM must accept responsibility for the licensing of listed activities and the enforcement of legislation in this regard.

- iii. Air quality management requires cooperation from all the Municipal disciplines which includes amongst others traffic, Municipal health, fire and rescue, town planning, engineering, building control etc. some of these function rests with the ODM.
- iv. The lack of clarity and the capacity constraints within the Municipality and within the ODM can be resolved by greater involvement from the Provincial Government Western Cape.
- v. A successful implementation of air quality management is thus strongly dependent upon cooperation and communication between the Municipality, the ODM and the Provincial Government Western Cape.
- vi. Inadequate financial provision specifically earmarked for air quality management by the Municipality.
- vii. The availability of suitably skilled human resources.
- viii. The perception “The area’s air is clean, so why is air quality management necessary” makes it difficult to gain the attention of decision makers as well as the general public. A culture of Air Quality Management must be created.
- ix. Clarity on the function and funding arrangements of the Environmental Management Inspectors (EMI) and the designation of such inspectors in the Swellendam Municipal area needs to be addressed.
- x. Town planning and road planning do not always consider the impact of developments on air quality.

8. AIR QUALITY MANAGEMENT OBJECTIVES

8.1 Effective Air Quality Management

The objectives of effective air quality management are:

- i. To strengthen the capacity of air quality in the Municipality;
- ii. To strengthen the relationship with the ODM, neighbouring Municipalities and the DEADP on air quality issues;
- iii. To ensure adequate funding for the implementation of the AQMP;
- iv. To develop comprehensive education and communication mechanisms, strategies and programmes with respect to air quality;
- v. To develop, implement and maintain an Air Quality Management System;
- vi. To establish an annual AQMP review process;

- vii. To promote environmental best practices and cleaner development technologies amongst all stakeholders;
- viii. To promote continuous improvement with respect to compliance;
- ix. To ensure that health-based air quality standards are attained and continually met;
- x. To reduce ozone depleting substances and greenhouse gas emissions, in line with national and international requirements;
- xi. To establish an Emission Reduction Strategy;
- xii. To participate effectively in the Air Quality Forum in order to ensure proper communication with the district Municipality and the provincial government on a continuous basis.
- xiii. To improve compliance monitoring and enforcement;
- xiv. To ensure continuous compliance with air quality legislation including atmospheric licensing conditions.

9. MONITORING

Monitoring and reporting on progress with regard to the implementation of the AQMP is a key factor in maintaining momentum for the rollout of interventions as well as providing a way to update key stakeholders.

10. EVALUATION

Continuous evaluation is an essential element of the AQMP implementation as it allows for a thorough assessment of the AQMP in order to identify challenges. Evaluation is an internal mechanism to measure the performance with regard to the implementation of the AQMP. The evaluation process will assess the AQMP implementation outcomes, which are based on the AQMP indicators. Annual evaluation of the AQMP implementation will be conducted by the senior management team.

11. IMPLEMENTATION AND REVIEW

The AQMP has been approved by council per item C21 on 30 September 2015 and will be reviewed from time to time. The review comprises a review of the AQMP and the

implementation and addresses further developments in the science, as well as the management of air quality. The review period will be every five years. The definition of the review period is subject to funding and political cycles, as well as implementation outcomes. Therefore, an element of elastic is necessary. The internal revision is communicated to stakeholders through a limited public participation process, followed by a further iteration and publication.

12. IMPLEMENTATION PLAN

Table 2: AQMP implementation plan for the Swellendam Municipality

GOALS	OBJECTIVES	TARGETS	ACTIVITIES	TIMEFRAMES
Effective Air Quality Management	Effective Air Quality Management	Build capacity in air quality management within the Town Planning and Building Control Division.	Provide continuous training and development in air quality management	Continuous
	Develop, implement and maintain an Air Quality Management System	Compilation of a comprehensive emissions inventory for the municipal area	Compile an emission inventory of all line sources	Medium
			Compile an emission inventory of all area sources	Medium
			Compile an emission inventory of all industrial sources	Short
			Engagements with ODM and the DEADP to assist with air quality monitoring within the municipality	Short – Long
	Establish an annual AQMP review process	Review systems, structures and processes to review progress in relation to the AQMP.	Report on quarterly basis to Senior Management	Continuous
			Establish a comprehensive complaints register.	Short
	Electronic management system	Implementation of electronic management system for air quality	Budget provision must be made for Electronic management system for air quality management	Medium – long

Effective emissions management	Establish an emission reduction strategy.	Industries	Establish a comprehensive database on industrial emissions	Medium – long
		Town areas	Create awareness campaigns around the negative health impacts of domestic fuel burning	Continuous
			Encourage the distribution of alternative forms of domestic energy such as LPG, LSF, gas, methanol, etc	Continuous
		Traffic	Liaise with ODM on vehicle emissions and assist with actions where possible	Medium – Long
			Compile a detailed assessment of the vehicle fleet in the Swellendam municipality including information on vehicle numbers, type, age and fuel usage.	Long
		Agriculture	Liaise with ODM on pesticides programmes and assist where necessary.	Continuous
		Biomass Burning	Liaise with ODM fire services to assist in air pollution control	Continuous
		Waste Treatment and Disposal	Develop an emissions inventory of waste burning sources	Short – Medium

			(incinerators, sewage and waste water treatment works)	
			Ensure all operating incinerators are permitted	Continuous
			Maintain a current database of permitted and non-permitted landfill sites	Continuous
Promote communication in relation to Air Quality Management	Participate in the ODM air quality forum in order to ensure proper communication between the ODM and other local municipalities, provincial government, business and industry as well as interested and affected parties.	Dedicate officials to attend forum meetings and make representations	Regular attendance of an Air Quality Officers Committee/ Forum	Continuous
		Obtain clarity on division of functions between the municipality and the ODM and DEADP.	Discussions on the division of functions on regular basis	Continuous
		Dedicated officials to report regularly on meetings attended and air quality issues to be addressed	Report to Manager Town Planning and Building control	Continuous
Compliance monitoring	Enforcement of Air Quality by-law	Build capacity to ensure Air Quality compliance	Regular inspections and reaction top complaints by Law Enforcement Officers.	Continuous

13. CONCLUSION

This AQMP indicates that there are many areas which the Municipality needs to address in order to ensure a safe and healthy environment for all its inhabitants. These include, amongst others, improved pollution and waste control, involving the community in environmental decision making, enhanced law enforcement etc.

This AQMP is the first of its kind and provides a basis for addressing a number of air quality issues but also takes into account the vast differences of the various communities and their behaviour and circumstances. It lays the foundation for improved air quality management for now and in the future and the effect that air pollution will have on the environment and the wellbeing of our inhabitants. We therefore request all role-players to assist us by studying this document and contributing to the improvement thereon.

The development of the AQMP needs to be a combined effort which reflects the inputs of the public and all interested and affected parties. All inhabitants have a role to play in the effort of improving air quality in the Swellendam Municipal area. Contributions from other spheres of government are also vital as many aspects of air quality cannot easily be resolved at local level.

We urge the National and provincial departments of environmental affairs, the ODM, business, industry, trade unions, community organisations and Non-governmental Organisations (NGOs) to get actively involved in the implementation of our AQMP.

14. PUBLIC PARTICIPATION

1. The draft AQMP was published for public comment and input on 21 August 2015 in the Langeberg Bulletin and on the Municipal website.
2. It was circulated to all Ward committees and advertised on the Municipal notice boards at the following offices:
 - Swellendam Munisipale Kantore, Voortrekstraat 49, Swellendam
 - Swellendam Openbare Biblioteek, Voortrekstraat 49, Swellendam
 - Railton Openbare Biblioteek, Resiesbaanstraat, Swellendam
 - Buffeljagsrivier Munisipale Kantore, Arendsestraat 5, Buffeljagsrivier
 - Buffeljagsrivier Openbare Biblioteek, Arendsestraat 1, Buffeljagsrivier
 - Suurbraak Munisipale Kantore, Hoofweg, Suurbraak
 - Suurbraak Openbare Biblioteek, Helmsirkel, Suurbraak
 - Barrydale Munisipale Kantore, Bainstraat 12, Barrydale
 - Barrydale Openbare Biblioteek, Bainstraat 12, Barrydale
3. It was e-mailed to the following organisations:

- Barrydale Ratepayers Association bra.bbv@gmail.com
- Infanta Residents and Ratepayers Association Belastingbetalersverenigings Irrachair@gmail.com
- Rietkuil Ratepayers Association rra.rbv@gmail.com
- Kontiki Property Owners Association (KPOA) Carlo Loubser carlo.loubser@aecom.com
- Swellendam Tourism Organisation peter@swellendamtourism.co.za

4. Inputs were received from:

- Mike Viljoen – Resident Infanta
- DEA&DP

15. REFERENCES

- 2011 National Census; 26 August 2015, <http://census2011.adrianfrith.com/place/170>
- South Africa Explorer, 26 August 2015, http://www.saexplorer.co.za/south-africa/climate/swellendam_climate.asp
- Statistics South Africa, 2011: 26 August 2015 http://www.statssa.gov.za/?page_id=993&id=swellendam-municipality
- Swellendam Municipality: Final IDP Review 2014/15, Spatial Development Framework (SDF), 2015: Swellendam, Western Cape
- Western Cape Provincial Treasury, Regional Development Profile 2014: Working Paper, Western Cape Government, Cape Town