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SECTION 5.7: NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY **FACILITIES** File name: 598690 ESK DSSR 5.7_Rev1b_20240315 Author I declare that appropriate diligence and quality assurance was applied in declaration: the compilation of this report. As such I am confident in the results here described and the conclusions drawn. Name: 15/03/2024 N. vd Merwe/L van Aarde Date: Peer I declare that this report has undergone independent peer review by Reviewer: myself, that comments were addressed to my satisfaction, and that as such, it is considered fit for publication. 15/03/2024 Name: Date: P. Smit **Project** Manager **Authorisation:** 15/03/2024 Name: D. Holmes Date: SRK Consulting - Certified Electronic Signature **Project** srk consulting Partner Authorisation: 15/03/2024 Name: B. Engelsman Date: **Eskom** Technical **Lead Nuclear** Siting Studies Acceptance Name: A. Killian Date: 15/03/2024 **Eskom**

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1b		15 March 2024	Partial revision to address NNR comments.	

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EXECUTIVE SUMMARY

This report is a partial update of the Duynefontyn Site Safety Report (DSSR) Section 5.7, Rev 1a.

This section of the Duynefontyn Site Safety Report (DSSR) presents the characteristics of nearby transportation, industrial and military facilities in the site region. The information contained within this section informs evaluations undertaken for the purposes of nuclear safety in <u>Chapter 6</u> (Evaluation of External Events) and for the purposes of emergency planning in <u>Chapter 8</u> (Emergency Planning).

The results of the characterisation investigations can be summarised below:

Airports, Airfields and Air Routes

The characteristics of air transport infrastructure in the site region have been determined and characterised. Key characteristics that are important to nuclear installation safety are the following:

- Cape Town International Airport (CTIA) (36.0 km south-southeast) serves an international, regional and domestic function and has a capacity to accommodate 262 800 aircraft movements/y. CTIA handled approximately 101 550 aircraft movements during the period January to December 2018. CTIA can accommodate most types of aircraft, from large passenger jets (maximum Type E aircraft with a wingspan less than 65 m) to smaller private aircraft. The planned second runway, which has currently been put on hold, will be able to accommodate Type F aircraft (wingspan more than 65 m), which includes the Boeing 747-8 and 787 and Airbus A380. The planned airport upgrades will be able to accommodate 385 440 aircraft movements/y.
- Two active civil airfields are located within the site vicinity, namely the Delta 200 Airfield (4.6 km northeast) and the Morningstar Airfield (14.6 km southeast). Delta 200 has one asphalt runway, runway 20/02, measuring 800 m in length. It is used by a flying school and skydiving club. The airfield is used by predominantly propellor type aircraft smaller than 5.7 t and approximately 120 aircraft movements per week have been recorded. Morningstar has one asphalt runway 20/02, 670 m in length. It is used by a microlight club, with approximately 600 movements per month, which represents the second busiest airfield in the site region.
- Several other airfields are located within the region. The two other busiest airfields in the site region are the Fisantekraal Airfield (30.5 km east-southeast) and the Stellenbosch Airfield (49.5 km southeast). The Fisantekraal Airfield has recently been acquired by the new owners who have announced their intention to redevelop the airfield as a commercial airport. The development proposals are currently not

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known. The remaining airfields are mostly private and unregistered facilities and are used for private or emergency purposes.

- There are two military airforce bases located within the site region. AFB Ysterplaat (25.9 km south-southeast) has a 02/20 runway, 1 585 m in length. Somersveld (48.1 km north) is utilised as an auxiliary facility to AFB Langebaanweg and has one runway. In addition, AFB Langebaanweg (located outside of the site region at 82.2 km north-northwest) has four runways. Data on aircraft movements at these airforce bases could not be obtained due to their confidential status.
- The site falls within the Cape Town Control Area. For the purpose of the
 development of a new nuclear installation(s) on the site, the existing restricted
 flying area (FAR36) above the Koeberg "A" Nuclear Power Station Units 1 and 2
 (KNPS) may need to be expanded in terms of the Civil Aviation Act, 2009, in order
 to ensure the safety of the nuclear installation(s).
- A detailed assessment of aircraft incidents and accidents from the CTIA operations
 was undertaken as per the requirements of RG-0011 and PP-0014 (National
 Nuclear Regulator, 2016) (National Nuclear Regulator, 2014). Refer to <u>Chapter 6</u>
 for the outcomes of this assessment.

Road Transport

The characteristics of road transport infrastructure in the site region have been determined and characterised. The characteristics that are important for nuclear safety refer to infrastructure that may contain external man-made hazards and infrastructure which is required for emergency evacuation.

The estimated total cumulative population within the site vicinity in 2096 will be about 22 400 120 (refer to **Section 5.4**) and the planning for the evacuation of this population is described in detail in **Chapter 8**.

Rail Transport

The characteristics of rail transport infrastructure in the site region have been determined and characterised. Key characteristics that are important to nuclear installation safety are the following:

- The Atlantis goods line which runs approximately 6 km east of the site.
- The Namaqualand heavy rail which runs approximately 24 km to the east of the site and carries mostly minerals, stone and cement.
- The Atlantis Commuter Rail Corridor is a proposed rail corridor, but the commuter

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link to Atlantis has not been earmarked as a planning priority.

- Transnet aims to increase freight volumes by rail. It can therefore be expected that
 the volumes of freight transported by rail within the site region will increase in the
 future.
- A new container rail hub is proposed at Kraaifontein (35 km to the east-southeast).

Marine Transport

The characteristics of marine-based transport infrastructure in the site region have been determined and characterised. Key characteristics that are important to nuclear installation safety are the following:

- The nearest harbour to the site is the Murrays Bay Harbour at Robben Island, located 14.4 km south-southwest. It is managed by the Department of Arts and Culture and receives ferries daily from the Victoria and Alfred Basin.
- The Port of Cape Town (26.2 km south) is the largest harbour in the site region and is the second largest port in South Africa. The entrance channel has a depth of -15.9 m chart datum and a width of 180 m. The largest ship the port can accommodate is up to 274.3 m in length and a draft of 12.0 m and the largest tanker up to 203.0 m and a draft of 13.1 m. There are plans to expand the port to increase its container handling capacity. The plans include seaward expansion, refurbishment of quays, deepening of the port waterways, the conversion from straddle carriers to a rubber-tyred gantry operation, the reconfiguration of the terminal to maximise container stacking capacity and improvement of access control to the port.
- The Port of Saldanha, located approximately 84.3 km north-northwest of the site, handles mostly iron ore export, as well as breakbulk cargo export and crude oil importation. It is the deepest and largest natural port in South Africa.
- There are two naval facilities in the site region, located at Simons Town (57.0 km south) and Gordon's Bay (67.1 km southeast). The Simons Town naval base provides a secure harbour in terms of berthing and pilotage services for SA naval and visiting vessels. It also houses the SA Naval Armament Depot, which stores and maintains weapons and ammunition in bulk for both the SA Navy and military.
- The evaluation of shipping lanes determined that one of the world's major shipping lanes passes the site and significant volumes (109.7 x 10⁶ t) of crude oil was transported past the site during 2019. This volume has decreased significantly since the peak period in 1997 when 630.0 x 10⁶ t passed around the South African coastline. Three ships have sunk/grounded in the site vicinity and an additional

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eight accidents were recorded in the site region for the period 1994 to 2018. Five significant oil spills have occurred in the site region for the same period. There is therefore, a potential risk that an oil or bunker fuel spill could have an impact on the nuclear installation(s). A total of 118 004 vessels (bulk carrier, cargo, contain and tanker ships) passed the site during 2020.

Industrial Facilities and Activities

The characteristics of nearby industrial areas and activities in the site region have been determined. Key characteristics that are important to nuclear installation safety are the following:

- Industrial development occurs throughout the site region within dedicated industrial areas in the Cape Town Metropolitan Area (CMA) and other major towns.
- Heavy industrial activities within the site region are located in the Atlantis industrial area (9 km north-northeast), Vissershok (14.5 km southeast), Montague Gardens (20 km south-southeast), Killarney Gardens (30 km south-southeast), Bellville industrial area (33 to 35 km south-southeast), Somerset West (60 to 65 km southeast) and Malmesbury (34 km northeast).
- Future (proposed) industrial development in the site vicinity is in a south-southeast direction at Du Noon and Vissershok (Frankendale risk industrial development) and in a north-northeast direction in Atlantis, as well as the proposed nuclear installation(s) and its associated infrastructure.

Emergency Services and Other Civil Infrastructure

Emergency services in the site region were identified as potential support services in the case of a radiological incident or accident. Their roles and duties are defined in terms of the detailed emergency plan prior to the nuclear installation operation. The location and distribution of emergency support services and the associated staff numbers and emergency support infrastructure have been determined for the purpose of informing *Chapter 8*.

Storage and Transportation of Hazardous Substances

The evaluation of the storage of hazardous substances within the site vicinity considered industrial areas, the potential for new industrial development, scattered industries, solid waste disposal sites, service stations and fertilizer used on farms. Based on the evaluation, an inventory of hazardous material stored in the site vicinity was compiled.

The evaluation of hazardous substances transported in the site vicinity considered all

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modes of transport, i.e. by road, rail, sea and air. Based on historical and recorded data, volumes and frequencies have been estimated to compile an inventory of hazardous materials that are currently transported in the site vicinity, as well hazardous substances that will be transported to and from the site in the future.

The evaluation of potential sources of external human-induced events also considered hazardous substances and bulk chemicals expected to be transported to the site. These represent potential sources of external hazards, as the hazard identification is based on the consistent EIA data set and the KNPS experience. The final inventory of hazardous materials to be stored or to occur on-site must be finalised prior to nuclear installation construction.

Identification of Sources of Potential External Hazard

The data presented with respect to external hazards in this section of this DSSR also considered the occurrence of related transport accidents and incidents, the occurrence of external fires and potential sources of human-induced electromagnetic interference.

The assessment of nearby transportation, industrial and military facilities and associated activities as potential sources of external human-induced events that may pose a risk to the safety of the nuclear installation(s) was conducted.

Nuclear Site Safety

The National Nuclear Regulator (NNR) requires the control and/or monitoring of development within the Emergency Planning (EP) zones surrounding the nuclear installation(s). This is to ensure than no change of land use occurs within these EP zones which may give rise to activities that may pose an external threat to the nuclear installation(s) (e.g. a restriction on the location of hazardous industries or other activities that may have a detrimental impact on emergency planning). In this regard, the following aspects were considered:

- the existing 5 km and 16 km KNPS EP zones;
- existing restrictions on the potential urban expansion of Atlantis, Philadelphia, Duynefontein and Bloubergstrand;
- limitation of the extent and scale of services and facilities within the site vicinity;
- involvement of Eskom in the review of all spatial development frameworks and proposals for rezoning of agricultural land or facilitating institutional uses (i.e. significant land use changes) prior to decisions being made by the local, district or provincial authorities.

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Management of Uncertainties

The assessment conducted for the purposes of this section of this DSSR has identified the following uncertainties and aspects that may be important for nuclear installation safety:

- The estimated timeframe for the upgrade of the CTIA (if still proceeding) or AFB Langebaanweg.
- Neither of the three proposed commercial airports within the site region have been finalised or approved.
- Hazardous substances transported by rail.
- The transport volumes and frequency of potential substances being transported per ship past the site.
- Data on military aircraft movements at AFB Ysterplaat, Langebaanweg and Somersveld could not be obtained as the data are classified as confidential.
- The exact route of the planned Liquified Natural Gas (LNG) pipeline passing within the site vicinity has not been finalised.
- Hazard inventories of hazardous substances and bulk chemicals that are transported to or may occur on the site are preliminary.
- As most of the data presented in this section of this DSSR are related to land use, which is dynamic in nature, the potential exists that new hazard sources may be located within the site region.
- The South African Police Service (SAPS) would not provide the individual number
 of police personnel per police station, as the information is classified as
 confidential. The total number of police personnel based at all the police stations
 in the site region has however been provided.

The management of these uncertainties requires that:

- Final hazard inventories will need to be completed prior to nuclear installation construction. This should occur at the stage that the site-specific technology becomes known.
- In order to ensure that development that may pose a potential threat to the nuclear installation(s) does not occur within the site vicinity, the current KNPS restrictions already included in the Cape Town Municipal Spatial Development Framework

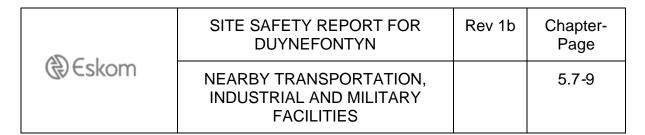
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(MSDF), should be enforced and complied with once the draft NNR 'Regulations on Development in the Formal Emergency Planning Zone of KNPS' is approved. Furthermore, to ensure that data in this section remain current throughout the nuclear installation lifetime, this section should be reviewed and updated every five years.

 Outstanding information should be obtained through follow-up data requests and additional formal requests directly between Eskom and the South African National Defence Force (SANDF) and the information should be included when received.

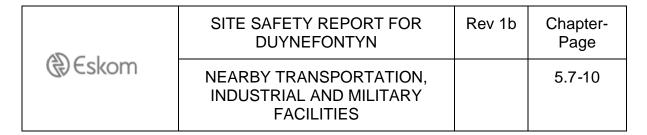
In conclusion therefore:

- The characteristics of nearby transportation, industrial, civil and military facilities in the site region have been identified as accurately as practically possible.
- Current and expected future distribution of nearby transportation, industrial, civil
 and military facilities in the site region have been determined as accurately as
 practically possible.
- Potential sources of external hazards that may pose a risk to nuclear installation safety have been determined, including the storage and transportation of hazardous substances in the site vicinity.
- The studies have been conducted to an adequate level of detail for the purpose of **Chapter 6**.
- The studies have been conducted to an adequate level of detail for the purpose of Chapter 8.
- Appropriate monitoring programmes and controls, which include regular revision
 of this section of this SSR, to provide on-going assurance regarding the viability of
 the site over its lifecycle can be established in compliance with regulatory
 requirements.



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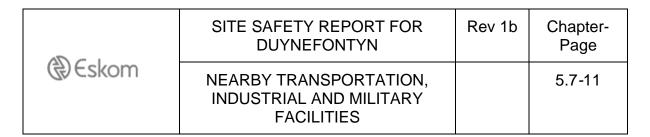
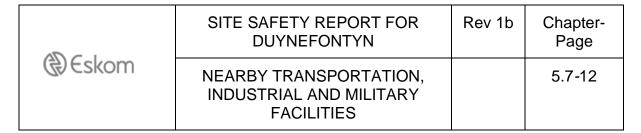


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5.7 NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES

5.7.1 Introduction

This section of the Duynefontyn Site Safety Report (DSSR) presents the approach and results of the investigation and characterisation of nearby transportation, industrial and military facilities and associated activities in the Duynefontyn site (hereinafter referred to as 'the site') vicinity and the site region. Refer to <u>Chapter 3</u> (Overview of Planned Activities at the Site) for a description of the nuclear installation(s) enveloping footprint and the site and to <u>Drawing 5.7.1</u> which illustrates the two investigation areas: the site vicinity (16 km) and the site region (80 km).

The report considers the aspects of nearby transportation, military and industrial facilities that form the basis for the identification hazards that need to be considered in the evaluation of external human-induced events (International Atomic Energy Agency, 2023), which are set out in detail in *Chapter 6* (Evaluation of External Events).

The report also addresses aspects that need to be considered in emergency planning, which is discussed in **Chapter 8** (Emergency Planning).

The investigations and descriptions presented provide an input into the demonstration of the suitability of the site for development of additional nuclear installation(s), which is set out in detail in <u>Chapter 6</u> and <u>Chapter 8</u>. In addition, the site characterisation takes the fact that the two licensed and operating Koeberg Nuclear Power Station Units 1 and 2 (KNPS) are located on the site into account.

This section complements the description of the site characteristics related to demography, land and water use and water supply ((presented in <u>Section 5.4</u> (Demography), <u>Section 5.5</u> (Land and Water Use) and **Section 5.12** (Water Supply).

This report is a partial update of the DSSR Section 5.7, Rev1a.

5.7.2 Purpose and Scope

The purpose of this section is to present the results of the characterisation of nearby transportation, industrial and military facilities, which identified the potential stationary and mobile sources of human-induced hazards that could impact on the nuclear installation(s)

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and related site characteristics that could influence the implementation of an emergency plan. The investigation also identified infrastructure and services that are required for emergency planning. The regional investigation covered the following:

- present and future characteristics of nearby transportation, industrial, civil and military facilities;
- external human-induced hazards¹ that are potential sources of external events that may pose a risk to the nuclear installation(s) and need to be considered in the design and operation of the nuclear installation(s) (to provide input into *Chapter 6*);
- present and future facilities and infrastructure that may affect the feasibility of emergency planning or be required for emergency planning ((to provide input into <u>Chapter 8</u>);

The scope of the present and future site characterisation over the design life of the nuclear installation(s) covered the following:

- activities and facilities in the site vicinity that involve the storage and transportation of hazardous substances, in terms of the dispersion of asphyxiant, toxic, corrosive or radioactive materials, as well as in terms of deflagration, detonation, flammable and explosive hazards, which if released under normal or accidental conditions, could jeopardise the safety of the nuclear installation(s).
- investigation of facilities that may give rise to missiles of any type that could affect the safety of the nuclear installation(s);
- external fires;
- the potential for aircraft crashes on the site, with account taken, to the extent practicable, of characteristics of future air traffic and aircraft.

5.7.3 Regulatory Framework

The legal and regulatory basis that guides the compilation of this DSSR is outlined in **Chapter 2** (Legal and Regulatory Basis). The current

¹ External events are defined as "events originating outside the nuclear installation, including natural and manmade events with the potential to cause adverse conditions or even damage to safety important structures, systems or components" (National Nuclear Regulator, 2014).

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national normative acts and associated regulations specifically relevant to aspects of nearby transportation, industrial and military facilities are set out below, followed by a discussion of relevant international standards and guidelines.

5.7.3.1 Legal Requirements

The national regulations relevant to this section are The Regulations on Licensing of Sites for New Nuclear Installations, R927 (Department of Energy, 2011), which require *inter alia*:

- "4. Factors to be considered in evaluating an application for a nuclear installation site licence will include, but not be limited to
 - (1) Factors relating to all nuclear installations in the vicinity.
 - (5) Natural phenomena and potential man-made hazards must be appropriately accounted for in the design of the new nuclear installation(s), and that adequate emergency plans and nuclear security measures can be developed."
- "5. A Site Safety Report referred to in Regulation 3(2)(a) must contain the following -
 - (3) The characteristics of the site relevant to the design assessment, risk and dose calculations, including inter alia:
 - (a) external events;
 - (f) projections of the above data commensurate with the design life of the nuclear installation(s)."

5.7.3.2 Requirements, Documents and Guidelines

In addition to abovementioned national regulations, international safety standards and recommendations were also considered to ensure that this section is developed in accordance with international best practice and included the following:

 National Nuclear Regulator (NNR), RG-0019: Interim Guidance on Safety Assessment of Nuclear Facilities (National Nuclear Regulator, 2019) which requires, inter alia, Section 7.3.6.1 "The description of the nuclear facility, site and environs should include all factors relevant to the safety case, including location and factors relevant to

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external hazards, security risks and public risk including geography, meteorology, hydrology, land use, demographics (present and projected), other industrial undertakings, transport systems and military installations".

- NNR Regulatory Guide: Interim Guidance for the Siting of Nuclear Facilities, RG-0011 (National Nuclear Regulator, 2016), which requires inter alia:
 - Section 7.1(4): The foreseeable significant changes in land use, such as the expansion of existing facilities and human-induced activities or the construction of high-risk installations, should be considered and approved regional plans must be taken into consideration.
 - Section 7.3.1: To inform the projected annual frequency of aircraft crashes on the site, data such as the distance of the nearest airport (with the present flight frequency and expected growth) and air traffic corridors in the region, as well as the type of aircraft used, should be collected.
 - Sections 7.3.2 and 7.3.3: Data should be collected on external fires, explosions and asphyxiant/corrosive/toxic gas releases, release of radioactive materials, oil slick/chemical spill, blasting operations and mining, drilling and water extraction.
 - Sections 9.1(4), 9.2 and 9.3: To inform emergency planning, data on the characteristics of local transport and communications networks and industrial facilities, which may entail potentially hazardous activities, need to be presented.
- National Nuclear Regulator (NNR) Position Paper: Considerations of External Events for New Nuclear Installations, PP-0014 (National Nuclear Regulator, 2014), which requires inter alia:
 - Section 6: The identification and evaluation of external human-induced events of accidental origin, not directly involved in the operational states of the nuclear installation(s) Examples include inter alia: mining-induced seismicity, aircraft crashes, explosions, release of hazardous gases from off-site and on-site storage, release of radioactive material from off-site sources, release of corrosive gases and liquids from off-site and on-site storage, external fires, collision of ships or floating debris with accessible safety related structures, such as water

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intakes, and collision of vehicles at the site.

- Section 7: The identification and investigation of hazards associated with each external event to a sufficient level of detail by conducting site-specific and regional studies.
- Section 11.7: Data on aircraft movements to feed into an assessment of the effects on the nuclear installation(s) of the impact of a large commercial or military aircraft.
- International Atomic Energy Association (IAEA) Safety Standards No. SSR-1 on Site Evaluation for Nuclear Installations (International Atomic Energy Agency, 2019). This establishes requirements for:
 - Paragraph 1.4(b), "Evaluating a site such that the site specific hazards and the safety related site characteristics are adequately taken into account, in order to derive appropriate site specific design parameters" Noting that in terms of the standard, "Site specific design parameters are needed for the design of a nuclear installation. The design of a nuclear installation is adequate for a specific site if the actual parameters used in the design envelop the corresponding site specific design parameters".
 - Paragraph 1.5(a), "the requirements are to be applied to identify the ... human induced external hazards that could affect the safety of the nuclear installation";

and requires inter alia:

- Paragraph 4.6(a), the assessment of the suitability of a site for a nuclear installation shall evaluate of "the effects of ... and human induced external events occurring in the region that might affect the site";
- Paragraph 4.12, the "human activities in the region with the potential to induce hazards at the site that might affect the safety of the nuclear installation shall be identified and evaluated. The extent of this evaluation shall be commensurate with the safety significance of the potential hazards at the site";
- Paragraph 4.14, "The size of the region to be investigated shall be defined for each of the ... human induced external hazards. Both the magnitude of the hazard and the distance from the

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source of the hazard to the site shall be considered in determining the size of the region to be investigated";

- Paragraph 4.16, "The process and associated criteria used in the screening of site specific hazards shall comply with the safety objective for site evaluation and shall be properly justified and documented".
- Paragraph 4.20, "The site evaluation for a nuclear installation shall consider the frequency and severity of natural and human induced external events, ...";
- Paragraph 4.26, "The results of the evaluation of hazards shall be expressed in terms that can be used as an input for deriving the site specific design parameters; that is, appropriate parameters for describing the severity of the effects of the hazards shall be selected or developed";
- Paragraphs 4.27, "The potential for explosion, chemical releases and/or thermal releases that might affect the safety of the nuclear installation or the dispersion of radioactive material shall be considered in the site evaluation process";
- Paragraph 4.32, "The potential for hazards originating from one nuclear installation to affect other nuclear installations located on the same site or on adjacent sites shall be assessed";
- Paragraph 4.34, "The site characteristics ... and human induced external hazards that can change over time and which could affect the safety of a nuclear installation shall be identified. The potential consequences of such changes shall be duly assessed for the planned lifetime of the nuclear installation";

In terms of Requirement 24: Evaluation of hazards associated with human induced events:

- o Paragraph 5.33, "Human induced events to be addressed shall include, but shall not be limited to:
 - (a) events associated with nearby land, river, sea or air transport (e.g. collisions and explosions);
 - (b) fire, explosions, missile generation and releases of hazardous gases from industrial facilities near the site;

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- (c) electromagnetic interference";
- Paragraph 5.35, "The potential for accidental aircraft crashes on the site shall be assessed with account taken, to the extent practicable, of potential changes in future air traffic and aircraft characteristics";
- Paragraph 5.36, "Current or foreseeable activities in the region surrounding the site that involve the handling, processing, transport and/or storage of chemicals having a potential for explosions or for producing gas clouds capable of deflagration or detonation shall be addressed";

With respect to monitoring and periodic review:

- Paragraph 7.4, "As part of periodic safety review (or as part of safety assessments conducted under alternative arrangements), natural and human induced external hazards and site conditions shall be reviewed throughout the lifetime of the nuclear installation using updated information. Such reviews shall be undertaken at regular intervals (typically no less than once in ten years)", as well as under specified circumstances set out further in the standard.
- IAEA Safety Standards Series, Specific Safety Guide: No. SSG-79: Hazards Associated with Human Induced External Events in Site Evaluation for Nuclear Installations (International Atomic Energy Agency, 2023), which provides recommendations on the evaluation of hazards associated with human induced external events that could affect the safety of nuclear installations. These hazards need to be considered evaluation of sites for nuclear installations. The guide provides for inter alia:
 - Paragraph 1.12: the safety guide is primarily focused on the evaluation of the site for new nuclear installations, but the recommendations are also applicable in the re-evaluation of sites of existing nuclear installations, and the periodic reviews of such installations;
 - Paragraph 1.14: the external human induced events considered in the Safety Guide are of accidental origin;
 - Paragraphs 2.5 and 3.1: The evaluation of other nuclear facilities located at the same site:

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 Paragraphs 2.11: The evaluation of possible regional development over the anticipated lifetime of the nuclear installation(s).

In particular, this guide classifies sources of external human-induced events as follows:

- Paragraph 2.15(a): Stationary sources, for which the location of the initiating mechanism is fixed (explosion centre, point of release of flammable or toxic gases), such as chemical plants, oil refineries, storage depots and other nuclear facilities on the same site;
- Paragraph 2.15 (b): Mobile sources, for which the location of the initiating mechanism is not totally constrained, such as any means of transportation of hazardous materials or potential projectiles (by road, rail, air, waterways, pipelines) – In such a case, an accidental explosion or a release of hazardous material may occur anywhere along a route or pipeline.

The Appendix to AIEA SSG-79 provides information on categories of human induced external events, information on their identification, evolution and possible effects and the potential impact on nuclear installations.

- IAEA Safety Standards Series, Safety Guide: No. NS-G-3.2: Dispersion of Radioactive Material in Air and Water and Consideration of Population Distribution in Site Evaluation for Nuclear Power Plants (International Atomic Energy Agency, 2002b), which includes Paragraph 6.3, which requires that important site related factors that need to be taken into account in demonstrating the feasibility of the emergency plan include:
 - "characteristics of local transport and communication networks";
 - "industrial facilities that may entail potentially hazardous activities";
 - "possible concurrent external events".
- IAEA Safety Standards Series, Specific Safety Guide: No. SSG-68: Design of Nuclear Power Installations against External Events excluding Earthquakes (International Atomic Energy Agency, 2021),

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which includes items of particular relevance to the evaluation of external events relative to the design and safety assessment of the nuclear installation(s). The guidance provided is of particular importance to the evaluations conducted for the purposes of *Chapter 6* of the DSSR.

In addition, relevant sections of the following guides and codes have been referred to in the development of this section:

- US NRC Regulatory Guide 1.78: Evaluating the Habitability of a Nuclear Power Plant Control Room During a Postulated Hazardous Chemical Release (U.S. Nuclear Regulatory Commission, 2001) – This requires the identification of potential hazards (stationary and mobile) that have the potential to result in toxic vapours or gases and their potential for incapacitating nuclear installation control room operators.
- US NRC Regulatory Guide 1.70: Standard Format and Content for Safety Analysis Reports for Nuclear Power Plants (U.S. Nuclear Regulatory Commission, 1978a) requires:
 - Section 2.2.1: "provide maps showing the location and distance from the nuclear plant of all significant manufacturing plants: chemical plants; refineries; storage facilities; mining and operations; military bases; missile guarrying transportation routes (air, land, and water); transportation facilities (docks, anchorages, airports); oil and gas pipelines, drilling operations, and wells; and underground gas storage facilities. Show any other facilities that, because of the products manufactured. stored. or transported. mav consideration with respect to possible adverse effects on the plant. Also, show any military firing or bombing ranges and any nearby aircraft flight, holding, and landing patterns";
 - Section 2.2.2.1: "a concise description of each facility, including its primary function and major products and the number of persons employed, should be provided in tabular form";
 - Section 2.2.2.2: "description of the products and materials regularly manufactured, stored, used, or transported in the vicinity of the nuclear plant should be provided";
 - Section 2.2.2.3: "for pipelines, indicate the pipe size, pipe age, operating pressure, depth of burial, location and type of

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isolation valves, and the type of gas or liquid presently carried. Indicate whether the pipeline is used for gas storage at higher than normal pressure and discuss the possibility of the pipeline being used in the future to carry a different product than the one presently being carried";

- Section 2.2.2.5: "for airports, provide information on length and orientation of runways, type of aircraft using the facility, the number of operations per annum by aircraft type, and the flying patterns associated with the airport. Plans for future utilization of the airport, including possible construction of new runways, increased traffic, or utilization by larger aircraft, should be provided. In addition, statistics on aircraft accidents should be provided".
- Section 2.2.2.6: "present activities and new types of activities in the vicinity of the nuclear plant that can be reasonably expected based on economic growth projections for the area".
- US NRC Regulatory Guide 1.91: Evaluations of Explosions Postulated to Occur on Transportation Routes near Nuclear Power Plants (U.S. Nuclear Regulatory Commission, 1978b) requires inter alia the identification of events and conditions outside of the nuclear power plant that could pose a threat to the safety of the nuclear installation(s), including hazardous materials that are transported on nearby transportation routes.
- US NRC Title 10 of the Code of Federal Regulations Chapter I Part 100 on Reactor Site Criteria (U.S. Nuclear Regulatory Commission, 1997) requires:
 - Section 100.21(e): The identification of "potential hazards associated with nearby transportation routes, industrial and military facilities";
 - Section 100.21(g): "physical characteristics unique to the proposed site that could pose a significant impediment to the development of emergency plans must be identified".
- US NRC Regulatory Guide 4.7: General Site Suitability Criteria for Nuclear Power Stations (U.S. Nuclear Regulatory Commission, 1998), requires:
 - Section B: "an examination and evaluation of the site and its

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vicinity, including the population distribution and transportation routes, should be conducted to determine whether there are any characteristics that would pose a significant impediment to taking protective actions to protect the public in the event of emergency";

- Section B: "potentially hazardous facilities and activities within 8 km (5 mi) of a proposed site, and major airports within 16 km (10 mi) of a proposed site, should be identified";
- Section B: The identification of "accidents at nearby industrial facilities such as chemical plants, refineries, mining and quarrying operations, oil or gas wells, or gas and petroleum product storage installations might produce missiles, shock waves, flammable vapor clouds, toxic chemicals, or incendiary fragments";
- Section B: The identification of "accidents at nearby military facilities, such as munitions storage areas and ordnance test ranges".
- US NRC NUREG-0800 Standard Review Plan for the review of Safety Analysis Report for Nuclear Power Plants (Sections 2.2.3, 3.5.1.5 and 3.5.1.6) (U.S. Nuclear Regulatory Commission, 2007), which provides criteria for determining whether a more detailed assessment of aircraft incidents and accidents from future airport flight operations is required to be performed in <u>Chapter 6</u> of the DSSR or not. This requires:
 - the identification of the locations and separation distances to transportation facilities and routes (including airports, airways, roads, railways, pipelines and navigable bodies of water);
 - the identification of the military and industrial facilities, such as fixed manufacturing, processing, and storage facilities.
- Electric Power Research Institute (EPRI) Siting Guide: Site Selection and Evaluation Criteria for an Early Site Permit Application (Electric Power Research Institute, 2015), which requires:
 - the identification of military bases, oil pipelines, oil or gas wells, oil and gas storage areas, significant manufacturing facilities, chemical facilities, refineries, mining and quarrying operations, dams, land and water transportation routes for hazardous

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materials and docks and anchorages for hazardous materials ((within 5 miles (8 km) of hazardous facilities and 10 miles (16 km) of major airports)). For the purpose of this section of the DSSR an enveloping approach to external hazard identification has been adopted.

- the projected future uses and activities with regards to the above facilities.
- United States Department of Energy Technical Standard No. DOE-STD-3014-96: Accident Analysis for Aircraft Crash into Hazardous Facilities (U.S. Department of Energy, 1996) requires:
 - identification of the location and distance from the site of nearby airports and air routes, as well as a description of each;
 - a list of aircraft types (with their specifications) that use these airports and the number of movements per year;
 - historical aircraft accident data.

5.7.4 Approach to the Characterisation of Nearby Transportation, Industrial and Military Facilities

On the basis of the safety requirements and criteria and supporting guidance presented in <u>Subsection 5.7.3</u>, the NSIP01388 DSSR: Revision 2 (Eskom, 2021a) applicable to this section and the NNRs Interim Guidance for the Siting of Nuclear Facilities (National Nuclear Regulator, 2016), the approach adopted to the characterisation of nearby transportation, industrial and military facilities involved the following (Eskom, 2021a) (National Nuclear Regulator, 2016):

- identification and description of the nearby facilities, activities and external human-induced events that may affect the safety and inform the design of the nuclear installation(s);
- identification and description of foreseeable evolution of facilities and activities in the site region that may have a bearing on safety, such as changes in land use, the expansion of existing facilities and activities or the construction of high-risk facilities;
- development of a human-induced hazards source map and hazards inventories for the nuclear installation(s);

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- presentation of parameters for external events to characterise the
 potential hazards in such a manner that they can be appropriately
 used in the hazard assessment (to be presented in <u>Chapter 6</u>) and
 in nuclear installation design;
- providing input for the evaluation of the feasibility of the emergency plan (to be presented in <u>Chapter 8</u>);
- identification of areas of uncertainties and approaches for their management;
- identification of critical/important features and characteristics as well as future actions (e.g. additional monitoring and confirmatory studies).

5.7.4.1 Area of Investigation

The areas selected for the investigation of nearby transportation, industrial and military facilities, as well as select civil installations, are based on the site region (80 km) and the site vicinity (16 km) as illustrated in <u>Drawing 5.7.1</u>. The areas of investigation are aligned with the areas of investigation presented in <u>Section 5.4</u>, <u>Section 5.5</u> and <u>Section 5.6</u> (Adjacent Sea Use) which also serve as input into the development of **Chapter 6** and **Chapter 8**.

The areas of investigation were selected to ensure that all relevant sources of external hazards in the site region are identified and characterised for the purposes of <u>Chapter 6</u> and to provide information required for emergency planning, presented in **Chapter 8**.

a) Area of Investigation for Sources of External Hazards

It is recommended in the US NRC Guide 4.7 (U.S. Nuclear Regulatory Commission, 1998) and EPRI (Electric Power Research Institute, 2015). that the area of investigation for certain sources of potentially hazardous facilities and activities shall be within 5 miles (8 km) of a proposed nuclear installation site, and major airports within 10 miles (16 km) of a proposed site, should be identified and characterised.

For the purposes of the DSSR, an enveloping distance of 16 km was selected for external hazards related to stationary sources and fixed route hazards, i.e. hazardous substances being transported by road, rail or pipeline.

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Where a transport corridor such as an air corridor passes through the site region, or a maritime transport corridor passes the site, a larger area of investigation is applied. The closest regional transport originator, e.g. an airport or harbour that is located beyond the 16 km distance, has therefore been included in the evaluation.

In accordance with the general approach adopted for this section, data were collected for the site region and the site vicinity. In principle, the areas of investigation for the purpose of site characterisation for selected topics were the following:

- transportation networks, infrastructure and associated activities in the site region (80 km), which may affect/support emergency planning (to be presented in *Chapter 8*);
- military and industrial infrastructure and facilities, which provide input into hazard assessment for the site vicinity (16 km) (to be presented in <u>Chapter 6</u>) and the potential affected environment for the site region (80 km);
- civil infrastructure (i.e. water treatment works, wastewater treatment works and solid waste sites), which provide input into hazard assessment for the site vicinity (16 km) (to be presented in <u>Chapter 6</u>) and the potential affected environment for the site region (80 km)
- potential stationary sources of risk for the nuclear installation safety in the site vicinity (16 km), which provide input into hazard assessment (to be presented in *Chapter 6*);
- potential mobile sources of risk for the nuclear installation safety for the site vicinity, which provide input into hazard assessment (to be presented in <u>Chapter 6</u>). The investigation was increased up to the nearest regional airport, harbour, flight corridor and shipping lane to provide information on the nearest potential source of mobile hazard.

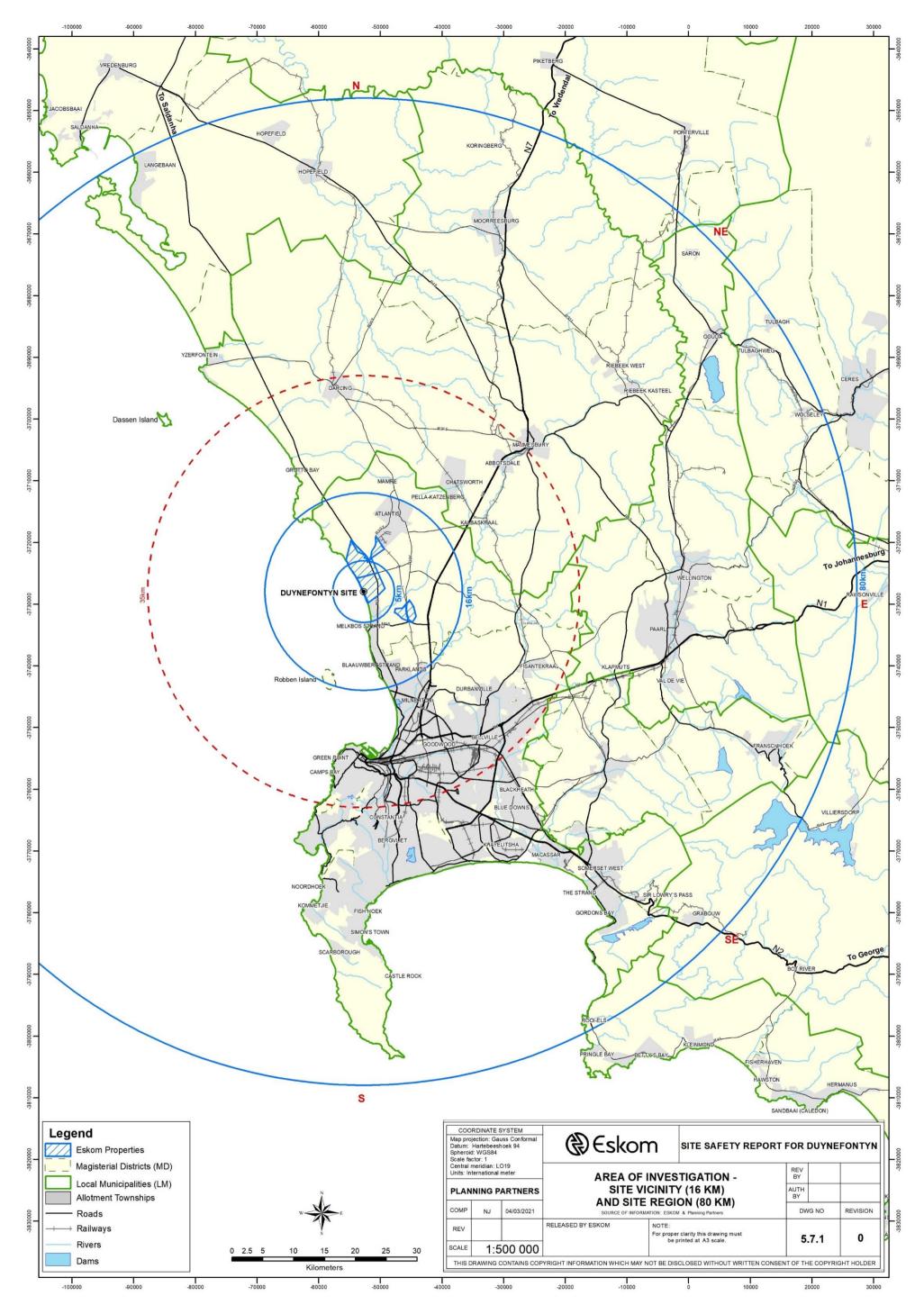
b) Area of Investigation to Support Emergency Planning

Emergency services and civil installations, which are important for emergency planning purposes, are investigated for the identified Emergency Planning Zones (National Nuclear Regulator, 2012). Data were collected for the site vicinity and up to the site region for key infrastructural items that support emergency planning such as hospitals, and Provincial and Cape Metropolitan disaster management support

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facilities.

Further, in the absence of country-specific regulation(s), the population density analysis set out in <u>Section 5.4</u> is informed by the US NRC Guide 4.7: General Site Suitability Criteria for Nuclear Power Stations (U.S. Nuclear Regulatory Commission, 1998). This guideline document requires that the average population density over a 20 mile (32 km) radius must be evaluated to determine whether the density through the projected lifetime of the nuclear installation(s) exceeds 500 persons per square mile (200 persons per square kilometre) or not. Where densities exceed this threshold value, particular attention to emergency planning measures is required. A corresponding radius of 35 km was selected to perform this analysis and is presented in <u>Section 5.4</u>. The investigation of civil installations (i.e. telecommunication infrastructure) that may need to be taken into consideration for emergency planning has therefore been performed for an area that extends beyond the site vicinity and up to 35 km.



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5.7.4.2 Topics

Sources of hazards can be classified as either stationary² or mobile³. The information presented in this section includes a consideration of and a description of characteristics of the present and expected future facilities, transportation networks, sources of hazards and human-induced risk events (International Atomic Energy Agency, 2023):

a) Stationary Sources

Relevant stationary sources of potential hazards on land and water in the site vicinity were identified and characterised and include the following (International Atomic Energy Agency, 2023) (National Nuclear Regulator, 2016):

- oil refineries, chemical plants, storage depots, telecommunication networks, mining or quarrying operations, other nuclear facilities, facilities that store or use combustible, corrosive, asphyxiant and toxic materials and high energy rotating equipment;
- military facilities.

The information necessary for consideration of the hazards posed by stationary sources covered: the types of hazardous material involved and the quantities in store, in process and in transit; the types of storage conditions and processes; the dimensions of major vessels, stores or other forms of containment; the location of these forms of containment; the construction and the isolation systems; and the active and passive safety features.

All available information on accidents and failures were collected. Information on the possibility of interaction between the identified materials in different stores or in process, which may lead to a significantly greater hazard, is presented in *Chapter 6*.

³ Sources, for which the location of the initiating mechanism is not totally constrained, such as any means of transport for hazardous materials or potential projectiles (by road, rail, waterways, air, pipelines). In such cases, an accidental explosion or a release of hazardous material may occur anywhere along a road or other way or pipeline (International Atomic Energy Agency, 2023).

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² Sources, for which the location of the initiating mechanism (explosion centre, point of release of explosive or toxic gases) is fixed, such as chemical plants, oil refineries, storage depots and other nuclear facilities at the same site (International Atomic Energy Agency, 2023).

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b) Mobile Sources

Relevant mobile sources of potential hazards on land, water and in the air in the site region were identified and characterised and include the following (International Atomic Energy Agency, 2023) (National Nuclear Regulator, 2016):

- airports, airfields, air routes and associated activities Airport zones, air traffic routes, flight zones and aircraft (military and civil);
- road and rail transport networks and associated activities Road vehicles, railway trains and wagons,
- harbours, shipping lanes and associated activities Ships and shipping lanes;
- pipelines.

Air traffic: the information collected on air traffic includes the location of airports, airfields and air traffic routes in the site region; the airports' take-off, landing and holding patterns; the types of warning and control devices available; and the types and characteristics of aircraft and their flight frequencies. Information on aircraft accidents for the region and for similar types of airport and air traffic was collected. Information was collected for both civil and military air traffic. Calculated frequencies are presented in *Chapter 6*.

Surface transportation: the information was collected on fixed traffic facilities in the site region, including ports, harbours, canals, dredged channels, railway marshalling yards and busy road junctions and intersections, as well as traffic routes in relation to the site. Information was collected on the characteristics of traffic flows in the site region and site vicinity, such as: the nature, type and quantities of material conveyed along a route in a single transport movement; the sizes, numbers and types of the vessels, speeds, control systems and safety devices where available; and accident statistics, including their consequences. Similar information was collected for pipelines: on the nature of the substance transported, the pipe diameter, flow capacity, the internal pressure, the distances between valves or pumping stations, safety features, and accident records including consequences.

Information on stationary and mobile types of sources in the site vicinity was collected to determine:

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- the location of possible sources of external human-induced events associated with transport networks (dealt with in this section);
- the probability of occurrence and the severity of the events (determined in *Chapter 6*).

The data relevant to the site region were therefore collected in a way that supports the characterisation of the site and presents the following:

- the characteristics and understanding of the current nearby transportation networks, industrial and military facilities;
- the extent and nature of the future transportation networks, industrial and/or civil development and military facilities (this information complements <u>Section 5.4</u> and <u>Section 5.5</u>);
- the characteristics and understanding of mobile and stationary sources of potential external human-induced events in the site region and the site vicinity, which include:
 - the characteristics of transportation networks with reference to air, road, rail and sea traffic, and the relevant frequency of use and of incidents in the site region and site vicinity;
 - the location of possible sources of external human-induced events associated with transport systems in the site vicinity;
 - the characteristics of mobile sources of hazards from surface and air transport with the potential for explosions, fires and the formation of gas and dust clouds in the site vicinity;
 - the characteristics and the location of stationary sources of hazards from industrial plants, storage depots and military facilities, which may arise from the potential for explosions, fires and the formation of gas and dust clouds in the site vicinity;
 - the probability of occurrence and frequency of fires and other events that may contribute to causing fires (aircraft crashes, explosions, etc.) within 2 km of the site (International Atomic Energy Agency, 2023), (National Nuclear Regulator, 2016) - In order to consider the potential of veld fires to spread over a larger area, the area of investigation was extended to include the site vicinity (16 km).

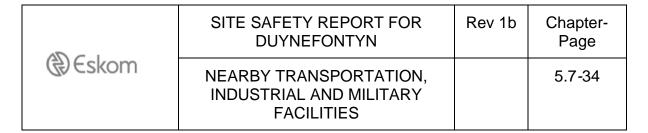
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 the distance of future and planned activities and facilities from the nuclear installation(s) in the site region.

The scope of the evaluation is summarised in <u>Table 5.7.1</u> below.

Table 5.7.1 Structure of this Site Safety Report

Activity/Industry	Site Region (80 km)	Site Vicinity (16 km)
Airport, airfields and air routes	Subsection 5.7.5	-
Surface transport (road and railway)	<u>Subsections 5.7.6</u> and <u>5.7.7</u>	-
Water transport	Subsection 5.7.8	-
Industrial development	<u>Subsection 5.7.9.1, 5.7.9.2, 5.7.9.5</u>	Subsection 5.7.9.3 (Coal Burning) Subsection 5.7.9.4 (Mining Activities)
Electricity generation and distribution	-	Subsection 5.7.10
Power supply	-	Subsection 5.7.10.6
Civil and telecommunication infrastructure	Subsections 5.7.11.1 to 5.7.11.6 (Water Treatment works, Wastewater Treatment Works, Solid Waste Sites)	Subsection 5.7.11.7 (Telecommunication)
Military facilities	Subsection 5.7.12	-
Storage of hazardous substances	-	Subsection 5.7.13
Transportation of hazardous substances	-	Subsection 5.7.14



Activity/Industry	Site Region (80 km)	Site Vicinity (16 km)
Main activities relevant to nuclear installation safety	-	Subsection 5.7.15 (stationary and mobile sources)
Identification of sources of potential hazards (stationary and mobile)	Subsection 5.7.15.1 (Aircraft and marine accidents)	Subsection 5.7.15.1 (Road, rail and pipeline accidents, fires, electromagnetic interference, radiological hazards and high energy rotating equipment)
Emergency services: police, fire, hospitals, sea recue, etc.	Subsections 5.7.15.2 Subsection 5.7.15.2 (Telecommunication, 35 km)	-

5.7.4.3 Data Sources

The evaluation of present and future activities in the site region and site vicinity took into account available historical data, including consideration of the previous DSSR: Revision 0 (2015) (Eskom, 2015).

Relevant information was obtained from national and regional databases, maps, published reports, public records, public and private agencies and professionals. Information about the characteristics of the site relies on official sources, and where data deficiencies or a lack of available data were identified, primary research and/or surveys were considered.

A description of data sources is provided in this section, together with a description of the data collection methodology and verification process. Corrections or adjustments made to address any identified gaps or data deficiencies are listed and any uncertainties in data quality are recorded.

The following key sources of information were used:

- aerial photography and South African 1:50 000 scale topo-cadastral sheets;
- world aeronautical charts (Planning Partners, 2021d);
- South African Naval Charts (Planning Partners, 2021b);

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- Geographic Information System (GIS) and cadastral information sources from the Surveyor General;
- government departments and parastatals;
- national acts, e.g. South African Maritime Safety Authority Act, 1998 and South African Civil Aviation Act, 2009 (Planning Partners, 2021b);
- the South African National Defence Force (Planning Partners, 2020h);
- existing regional databases e.g. boat launching facilities, cellular networks and emergency services facilities (Planning Partners, 2020f), (Planning Partners, 2020k), (Planning Partners, 2021b);
- Eskom's nuclear sites investigation reports (Planning Partners, 2020i), (Planning Partners, 2021a), (Planning Partners, 2021c);
- primary data collection such as traffic counts, industrial use surveys and field checks, municipal records, interviews with participants in a particular industrial sector and telephonic surveys (Planning Partners, 2020c), (Planning Partners, 2020i), (Planning Partners, 2020k), (Planning Partners, 2021a), (Planning Partners, 2021c);
- relevant strategic spatial planning reports at a regional and municipal level e.g. Integrated Development Plans and Spatial Development Frameworks (SDFs) (Planning Partners, 2021a), (Planning Partners, 2020b), (Planning Partners, 2020c), (Planning Partners, 2020f), (Planning Partners, 2020j);
- economic growth and development strategies and water services reports (Planning Partners, 2020c), (Planning Partners, 2020f);
- demography and land and water use studies (with reference to <u>Section 5.4</u> and <u>Section 5.5</u>);
- input and expert judgement of those specialists specifically tasked with conducting risk assessments and evaluation of design basis events, who rely on data presented in this section for the purpose of preparing <u>Chapter 6</u> and <u>Chapter 8</u>, to ensure that sufficient data are collected and presented;
- In the determination of hazards, site-specific data were used

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(National Nuclear Regulator, 2016).

Each topic described in this section includes a description of data sources used.

The data cut-off date is 31 December 2018. However, to inform the Aircraft Crash Assessment, aircraft movements were sourced until 31 December 2020 to provide the most up-to-date data.

5.7.4.4 Presentation of Data

All data and information collected and assessed for the purpose of this section were:

- recorded and presented in tabular format (where appropriate) in terms of distance (km), while the direction is indicated by a compass sector (northeast, south-southeast, etc.) – Measurements were taken from a predefined co-ordinate defined in <u>Section 5.1</u> (Geography and Site Location) on the site that sets a constant from which all distances relative to the site are presented in this DSSR. Direction was recorded clockwise starting with north and distance was recorded in ascending order.
- spatially presented in drawings that correspond with the respective areas of investigation of transportation networks and sources of external hazards assessed.

Data were presented in a format that is adequate for the evaluation of potential external events to be conducted in accordance with the requirements of *Chapter 6*.

Data were also recorded in tabular format and provide input into a GIS database developed for the site description.

All distances in the drawings, figures, and tables presented in this section are measured in a straight line from the site co-ordinates below, which is located at a central position on the site:

• X (m): -52727.4000

• Y (m): -3727966.6500.

The description of the infrastructure and facilities is provided in terms of segments, sectors and annuli as illustrated in *Figure 5.7.1* for ease of

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reading of this section. The radial grid does not represent the emergency planning (EP) zone sizes. The site vicinity and site region have been chosen to be large enough to envelop the expected final EP zones and to satisfy the requirements of emergency planning described in *Chapter 8*.

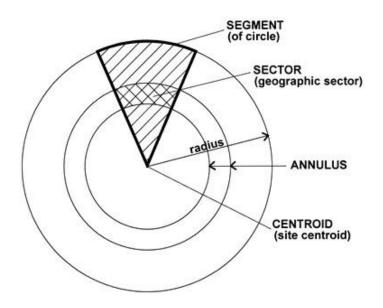


Figure 5.7.1 Illustration of Terms: Segment, Sector and Annulus

The existing facilities and activities and possible future developments in the site region and site vicinity that may have bearing on nuclear installation safety were considered for the period up to 2096, the planned end of the lifetime of the proposed nuclear installation(s). See also **Chapter 1** and **Chapter 2** (Introduction).

Assumptions for the future development, in particular industrial development, of the site region were made in accordance with current SDFs (Planning Partners, 2021a), (Planning Partners, 2020b), (Planning Partners, 2020c), (Planning Partners, 2020f), (Planning Partners, 2020j) that are described in detail in **Section 5.4** and **Section 5.5**. Land use and activities thereon indicate the potential for stationary sources and the origin of mobile sources of risk. The potential future increase of stationary sources in the site vicinity has been evaluated and is presented in this section.

The characterisation of transportation, industrial and military facilities in and around the site will be reviewed and updated at regular intervals in

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line with the requirements of the siting regulations (Department of Energy, 2011) and safety re-evaluations/re-assessments during periodic reviews.

5.7.5 Air Transportation Network and Associated Infrastructure

The results of the characterisation and description of the regional air transport network are presented in this section, with the up-to-date description of the current network and associated infrastructure. The characteristics that are important for nuclear safety (e.g. potential external hazards) were determined and presented in this subsection. Planned extensions or improvements to the air transportation network were also identified.

The investigation is based on the data presented in the previous DSSR (Eskom, 2015) and the investigation determined if the data previously provided were still current and valid. Additional and updated data were also obtained where relevant.

5.7.5.1 Commercial Airports

An investigation of airports, airfields and associated air routes was conducted to determine the location, characteristics and current intensity of air transport use in the site region (Planning Partners, 2021d).

The only commercial airport located in the site region is the Cape Town International Airport (CTIA, 36 km south-southeast, see *Drawing 5.7.2*).

a) CTIA Capacity and Operations

All international, regional⁴ and domestic flights for the southwestern region of the country are controlled from CTIA.

The airport has two asphalt runways, runway 01/19⁵ measuring 3 201 x 61 m and runway 16/34 measuring 1 701 x 46 m. The largest aircraft the runways are designed to accommodate is Type E aircraft

⁴ Regional flights represent flights to and from Namibia, Mozambique and Mauritius (Planning Partners, 2021d).

⁵ Runway orientation is represented as two numbers between 01 and 36 for each direction, corresponding to one tenth of the magnetic north of the runway's heading in degrees. Thus, a runway numbered 09 points east, 18 points south, 27 points west and 36 points north. For instance, runway 01/19 therefore lies in a 10° north to 190° south orientation (Planning Partners, 2021d).

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(wingspan less than 65 m). The airport can accommodate a maximum of 30 aircraft arriving and departing per hour.

Passenger aircraft arrivals and departures at CTIA currently occur between 05h45 and 23h25 in winter and 05h45 and 00h15 in summer. Three cargo flights operate at 02h00, 03h15 and 04h00.

b) Spatial Arrangements

CTIA is a recognised node for commercial property development. At present, the airport has been divided into seven precincts, of which five are development precincts (refer to *Figure 5.7.2*) (Planning Partners, 2021d).

i. Precinct 1: The Terminal

The Terminal Precinct accommodates all of the Airports Company of South Africa's (ACSA) aeronautical and commercial activities. It offers access to the terminal itself, the cargo terminal, car rental and airport parking. At the Freight Park, 1.6 ha of land has been allocated for commercial development. Adjacent to the Freight Park, the Oval Office Park at the entrance to the airport, has been designated for mixed use development (1.8 ha in extent).

ii. Precinct 2: Northern Logistics Node

The Northern Logistics Node accommodates large logistics and distribution warehouses. A total of 8.0 ha of development rights are allocated to this precinct.

iii. Precinct 3: Industrial Development Zone

The Industrial Development Zone is undeveloped at present, but is expected to attract industries that produce and transport products that have relatively low mass and high value.

iv. Precinct 4: Southern Precinct

The Southern Precinct accommodates 72.0 ha of undeveloped land available for a range of development opportunities.

v. Precinct 5: Aviation-Related Logistics

About 24.0 ha of land is available for development in the Aviation - Related Logistics Precinct. The site has airside and landside

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access, which makes it ideal for airport related business such as car rental and airline catering.

vi. Precinct 6: South African Airways

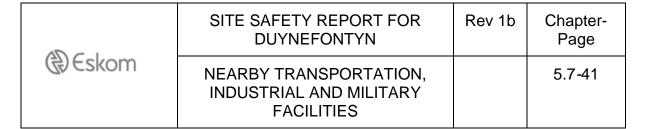
These two areas include the South African Airways administrative operations within the main terminal building and the maintenance hangar to the south of the terminal building.

vii. Precinct 7: Runways

This precinct contains the two existing runways, taxi routes and aircraft parking bays.

viii. SANDF 35 Squadron (Precinct 8)

This area is physically separated from CTIA and is used by the police and administered by the SANDF's 35 Squadron. It is located to the immediate east of the runways.



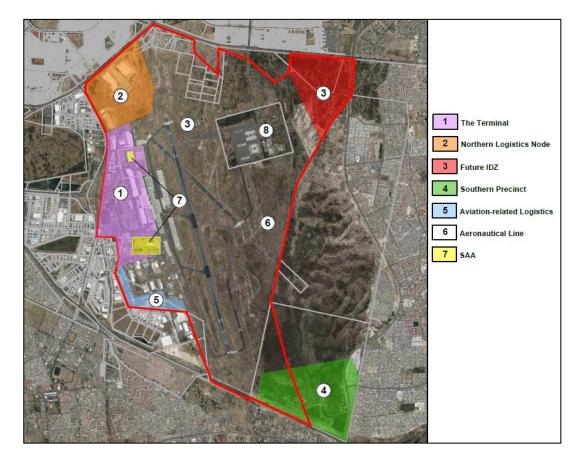


Figure 5.7.2

Cape Town International Airport Precincts

c) Passenger and Aircraft Movements

Data presented in the previous DSSR 5.7 (Eskom, 2015) indicated relatively stable, although declining, passenger numbers for the period 2007 (8.3 million passengers) to 2010 (8.1 million passengers), representing a 2.4 per cent decrease in total passenger movements over this period.

However, between 2010 and 2015 it was recorded that there was a 16 per cent increase in total passenger movements during this period.

Data on passenger figures and flight movements were obtained from the ACSA website for the period of January 2015 to December 2020. The number of international and domestic passengers departing from CTIA for this period is reflected in <u>Table 5.7.2</u>, whilst the number of international and domestic passengers arriving at CTIA is reflected in

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Table 5.7.3 (Planning Partners, 2021d).

Note that even though passenger data for 2020 were included in these tables, this calendar year will not be reported on, as 2020 had significant flight restrictions due to the Covid-19 pandemic. Reporting on the 2020 calendar year will provide a skewed trend for CTIA.

The two tables illustrate that passenger numbers further increased between 2015 (approximately 9.4 million passengers) and 2019 (approximately 11 million passengers), which represents a total increase of 16.7 per cent (Planning Partners, 2021d).

Departure figures reflect a significant increase of 53.2 per cent in international and regional passengers between 2015 and 2019, but only a marginal 8.6 per cent increase in domestic and non-scheduled passengers departing at CTIA over this period. Arrival figures reflected a corresponding 51.1 per cent increase in international and regional passengers and a 9.0 per cent increase in domestic and non-scheduled passengers for the same period (Planning Partners, 2021d).

As is expected, international and regional passenger numbers are the highest over the South African peak tourism season, e.g. October to April. Domestic and non-scheduled passenger numbers however remain consistent throughout the year, which could be attributed to business travel (Planning Partners, 2021d).

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Table 5.7.2 CTIA: International, Regional, Domestic and Non-scheduled Passenger Departures (January 2015 to December 2020)

DEPARTURES	EPARTURES INTERNATIONAL AND REGIONAL PASSENGERS						DOMESTIC AND NON-SCHEDULED PASSENGERS							
YEAR / MONTH	2015	2016	2017	2018	2019	Per Cent Increase/ Decrease (2015-2019)	2020	2015	2016	2017	2018	2019	Per Cent Increase/ Decrease (2015-2019)	2020
January	90 945	93 129	122 260	132 691	135 603	49.1	140 847	299 383	339 572	339 978	339 692	334 672	11.8	353 797
February	83 068	91 648	113 527	122 578	120 350	44.9	129 443	288 613	334 046	323 920	323 661	327 554	13.5	350 038
March	96 923	100 815	126 537	134 753	141 985	46.5	104 077	352 295	378 671	377 907	375 390	393 076	11.6	247 321
April	75 676	78 107	99 927	105 360	105 494	39.4	23	337 821	341 918	370 765	354 381	365 122	8.1	627
May	53 520	64 655	77 361	80 742	87 271	63.1	0	298 732	315 628	337 758	322 200	311 608	4.3	529
June	53 377	62 991	73 770	89 679	94 113	76.3	0	293 592	304 561	303 272	318 618	341 595	16.4	18 295
July	46 525	58 828	76 142	78 925	76 803	65.1	0	299 431	310 284	340 852	319 052	321 437	7.3	35 248
August	57 043	71 550	82 391	93 158	92 680	62.5	0	319 799	320 724	331 876	338 338	342 372	7.1	54 944
September	53 886	71 454	83 443	95 029	93 239	73.0	59	320 599	341 787	349 566	342 995	368 389	14.9	93 359
October	66 692	81 900	93 033	100 546	99 735	49.5	8 714	352 981	370 921	376 815	364 953	359 268	1.8	123 953
November	86 346	105 862	121 578	125 885	127 568	47.7	9 114	351 905	345 543	352 377	351 940	352 378	0.1	140 303
December	92 846	116 462	136 220	139 638	137 858	48.2	20 904	351 009	360 932	368 795	362 616	381 977	8.8	199 023
Total	856 847	997 401	1 206 189	1 298 984	1 312 416	53.2	413 181	3 866 160	4 064 587	4 173 881	4 113 836	4 199 448	8.6	1 617 437

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Table 5.7.3
CTIA: International, Regional, Domestic and Non-scheduled Passenger Arrivals (January 2015 to December 2020)

ARRIVALS	ARRIVALS INTERNATIONAL AND REGIONAL PASSENGERS						DOMESTIC AND NON-SCHEDULED PASSENGERS							
YEAR / MONTH	2015	2016	2017	2018	2019	Per Cent Increase/ Decrease (2015-2019)	2020	2015	2016	2017	2018	2019	Per Cent Increase/ Decrease (2015-2019)	2020
January	97 284	99 457	128 460	141 961	142 156	46.1	148 942	266 290	311 083	306 938	314 085	317 843	19.4	340 359
February	84 814	92 166	113 812	121 655	120 837	42.5	128 299	293 736	332 058	324 903	326 080	325 070	10.7	352 261
March	86 164	93 175	107 251	119 316	121 904	41.5	65 053	344 125	370 034	371 333	364 147	381 172	10.8	210 637
April	61 407	67 516	89 654	89 190	100 294	63.3	23	322 815	332 232	360 444	342 320	357 312	10.7	220
May	49 744	56 140	67 286	73 796	75 351	51.5	0	283 995	299 768	324 040	313 906	299 064	5.3	258
June	41 915	51 046	61 824	69 611	77 153	84.1	0	266 887	276 091	290 236	290 920	313 848	17.6	15 230
July	60 471	76 179	89 996	104 599	96 153	59.0	0	328 541	339 534	346 666	342 768	350 725	6.8	33 886
August	52 543	64 948	76 882	88 446	86 354	64.3	0	314 080	320 509	338 663	337 115	341 176	8.6	54 742
September	56 664	71 471	84 752	96 989	94 648	67.0	0	323 713	345 617	348 558	340 966	369 310	14.1	93 991
October	77 628	93 288	107 844	118 389	111 449	43.6	9 561	356 631	369 650	380 414	365 992	363 893	2.0	125 982
November	89 164	103 915	119 339	124 720	124 053	39.1	13 793	340 300	339 894	345 959	342 694	345 024	1.4	142 863
December	98 402	123 919	137 872	144 674	143 638	46.0	31 959	387 055	398 740	389 865	390 365	409 684	5.8	205 432
Total	856 200	993 220	1 184 972	1 293 346	1 293 990	51.1	397 630	3 828 168	4 035 210	4 128 019	4 071 358	4 174 121	9.0	1 575 861

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The overall activity of passenger arrivals and departures at CTIA is also reflected by the number of aircraft movements for the same period of January 2015 to December 2020, as shown in <u>Table 5.7.4</u> and <u>Table 5.7.5</u> (Planning Partners, 2021d).

Note that even though aircraft movement data for 2020 were included in these tables, this calendar year will not be reported on, as 2020 had significant flight restrictions due to the Covid-19 pandemic. Reporting on the 2020 calendar year will provide a skewed trend for CTIA.

<u>Table 5.7.4</u> and <u>Table 5.7.5</u> show a similar significant increase in international and regional departure (49.2 per cent) and arrival (49.0 per cent) flight movements, as was recorded with passenger numbers for the period 2015 to 2019. Domestic and non-scheduled departure and arrival flight movements however experienced a negative growth over this period (-10.5 per cent for departures and -7.7 per cent for arrivals). Note that the decrease is predominantly attributed to non-scheduled flights (Planning Partners, 2021d).

The anomaly that the arriving and departing domestic and non-scheduled passenger numbers increased over the 2015 to 2019 period, whilst the number of flight movements decreased over this period could be attributable to fewer movements by smaller leisure aircraft, e.g. Cessna, Pilatus and Piper aircraft (refer to *Table 5.7.6*, which records lower flight movements for these aircraft than what was recorded in 2007 to 2010) (Eskom, 2015), (Planning Partners, 2021d).

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Table 5.7.4
CTIA: Air Traffic Movements: Departures (January 2015 to December 2020)

DEPARTURES	INTERNATIONAL AND REGIONAL MOVEMENTS					DOMESTIC AND NON-SCHEDULED MOVEMENTS								
YEAR / MONTH	2015	2016	2017	2018	2019	Per Cent Increase/ Decrease (2015-2019)	2020	2015	2016	2017	2018	2019	Per Cent Increase/ Decrease (2015-2019)	2020
January	466	512	634	713	775	66.3	750	3 439	3 767	3 602	3 805	3 468	0.8	3 280
February	413	490	575	622	680	64.6	676	3 498	3 743	3 454	3 503	3 320	-5.1	3 041
March	451	526	605	666	748	65.9	535	3 886	3 975	3 823	3 844	3 569	-8.2	2 349
April	417	434	536	568	599	43.6	1	3 677	3 732	3 663	3 692	3 502	-4.8	135
May	355	416	546	534	553	55.8	0	3 639	3 599	3 770	3 592	3 442	-5.4	205
June	338	398	530	519	490	45.0	0	3 484	3 487	3 401	3 130	3 133	-10.1	788
July	370	447	574	596	527	42.4	0	3 750	3 420	3 593	3 478	3 061	-18.4	1 127
August	367	451	575	600	525	43.1	0	3 584	3 691	3 760	3 470	3 119	-13.0	1 008
September	358	441	554	585	525	46.6	2	3 620	3 586	3 602	3 316	3 135	-13.4	1 649
October	428	487	620	640	583	36.2	138	3 934	3 764	3 780	3 523	3 283	-16.5	1 914
November	498	571	678	696	679	36.3	150	3 884	3 677	3 644	3 459	3 120	-19.7	2 175
December	516	625	713	761	744	44.2	229	3 862	3 755	3 812	3 589	3 436	-11.0	2 777
Total	4 977	5 798	7 140	7 500	7 428	49.2	2 481	44 257	44 196	43 904	42 401	39 588	-10.5	20 448

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Table 5.7.5
CTIA: Air Traffic Movements: Arrivals (January 2015 to December 2020)

ARRIVALS		INTERNATIONAL AND REGIONAL MOVEMENTS				DOMESTIC AND NON-SCHEDULED MOVEMENTS								
YEAR / MONTH	2015	2016	2017	2018	2019	Per Cent Increase/ Decrease (2015-2019)	2020	2015	2016	2017	2018	2019	Per Cent Increase/ Decrease (2015-2019)	2020
January	468	515	636	716	773	65.2	751	3 431	3753	3583	3788	3 461	0.9	3 277
February	412	492	575	620	680	65.0	675	3 503	3736	3462	3510	3 315	-5.4	3 039
March	451	526	603	666	749	66.1	537	3 890	3980	3819	3840	3 565	-8.4	2 345
April	418	440	536	569	596	42.6	1	3 682	3731	3671	3680	3 507	-4.8	135
Мау	354	415	546	534	552	55.9	0	3 647	3595	3750	3597	3 439	-5.7	215
June	338	399	527	537	486	43.8	0	3 493	3471	3397	3134	3 135	-10.2	779
July	366	445	571	596	526	43.7	0	3 748	3427	3602	3481	3 061	-18.3	1 130
August	365	451	570	597	523	43.3	0	3 588	3706	3771	3470	3 120	-13.0	1 003
September	360	441	554	587	527	46.4	0	3 624	3583	3602	3316	3 139	-13.4	1 654
October	429	487	617	638	580	35.2	136	3 936	3770	3783	3527	3 281	-16.6	1 927
November	497	570	679	696	678	36.4	148	3 889	3661	3644	3469	3 128	-19.6	2 195
December	516	623	710	762	743	44.0	231	3 875	3770	3827	3605	3 447	-11.0	2 789
Total	4 974	5 804	7 124	7 518	7 413	49.0	2 479	44 306	44183	43911	42417	36 470	-17.7	20 488

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The ACSA records for the period January to December 2019 (one year period) indicated 10 979 975 passengers travelling through CTIA, of which 5 511 864 were departures and 5 468 111 were arrivals (refer to *Table 5.7.2* and *Table 5.7.3* (Planning Partners, 2021d).

Currently, CTIA has the capacity to handle 11.7 million arriving and departing passengers per year. Theoretically, there is therefore an additional 6.2 per cent spare capacity to handle passengers. Future plans to construct a second runway will increase the airport capacity to accommodate a maximum of 40 million passengers/y (Planning Partners, 2021d).

The ACSA records for the same period of January to December 2019 (one year period) indicated approximately 90 899 flight movements, of which 47 016 were departures and 43 883 were arrivals (refer to *Table 5.7.4* and *Table 5.7.5* (Planning Partners, 2021d).

The runway system can handle approximately 262 800 aircraft/y and there is therefore an additional 65.4 per cent capacity in terms of aircraft movements (Planning Partners, 2021d).

d) Aircraft Types

CTIA hosts almost all types of aircraft, from the larger passenger aircraft to the smaller private aircraft. Military aircraft occasionally use the airport. The relevant aircraft data indicating monthly movements per type of aircraft over the period of January 2015 to December 2019 were obtained from ACSA and are given in <u>Table 5.7.6</u>. The year 2020 was omitted due to flight restrictions because of the Covid-19 pandemic. Including the 2020 data would provide a skewed image of types of aircraft that use CTIA. It should be noted that due to the extensive list of aircraft which depart and arrive at CTIA, this table has been formatted by grouping similar types of aircraft together. The maximum take-off weight and fuel capacity is also given for each type of aircraft (Planning Partners, 2021d).

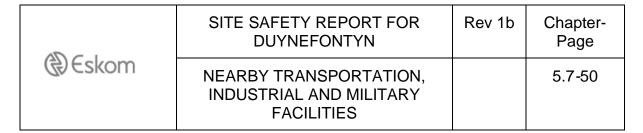
The Boeing 747-400 aeroplane is the largest aircraft that uses the airport, with a take-off weight of 398 000 kg (64.4 m wingspan, 70.6 m length and 19.4 m height) and a fuel capacity of 216 840 ℓ with an average of 88 monthly movements recorded (January 2015 to December 2019). It can be noted that these movements are less than the 144 movements recorded during 2007 to 2010 (Eskom, 2015). This is also the largest aircraft the airport can accommodate (Planning Partners, 2021d).

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The highest frequency of movement is recorded for the commercial passenger aircraft, the Boeing 737, with an average of 3 796 monthly movements (January 2015 to December 2019) and with a take-off weight of 163 292 kg, 34.3 m wingspan, 39.5 m length and 12.5 m height and a fuel capacity of 26 020 ℓ (Planning Partners, 2021d).

Table 5.7.6
Aircraft Data for CTIA: Aircraft Type, Maximum Take-off
Weight and Average Monthly Movements (January 2015
to December 2019)

Aircraft Type	Maximum Take-off Weight (kg)	Maximum Fuel Capacity (ℓ)	Average Number of Movements per Month
Airbus A319	64 000 – 75 900	30 190	327
Airbus A320	77 400	26 750	426
Airbus A330	212 000 – 233 000	97 530	108
Airbus A340	257 000 – 368 000	155 040	207
Airbus A350	268 000	141 000	50
Beechcraft	1 020 – 7 782	283 – 2 345	204
Boeing 727-200	53 070 – 96 900	37 020	1
Boeing 737	50 890 – 163 292	26 020	3 796
Boeing 737 freighter	53 070 – 58 967	26 020	112
Boeing 747-400	377 800 – 398 000	216 840	88
Boeing 757-200	115 680	42 680	1
Boeing 767-300	175 540 – 186 880	90 770	24
Boeing 777-200/300	175 540 – 349 266	171 170	303
Boeing 787	227 930 – 252 651	126 206	55
Bombardier	24 041 – 44 500	24 762	34
British Aerospace	4 500 – 43 100	11 728	195
Canadair	15 309 – 44 500	1 134 – 6 490	347
Cessna light aircraft	480 – 18 643	1 350	225
Convair V-580	6 379 – 28 576	4 164	2
Dassault	1 542 – 46 500	18 045	33



Aircraft Type	Maximum Take-off Weight (kg)	Maximum Fuel Capacity (ℓ)	Average Number of Movements per Month
De Havilland	16 470 – 28 690	3 165	208
Embraer RJ170/190	35 450 – 46 990	16 153	100
Embraer RJ135/140/145	20 000 – 22 500	6 480	677
Fokker	33 110 – 36 470	9 740	1
Gates Learjet	3 500 – 10 681	3 502	37
Gulfstream	3 062 – 45 200	28 238	19
Ilyushin IL76	170 000 – 193 000	114 000	2
McDonnell Douglas MD82	49 898 – 72 575	22 100	1
Pilatus PC	950 – 11 900	1 520	177
Piper light aircraft	550 – 5 696	477	237
Microlight	Unknown	Unknown	3
Unknown and other light aircraft type	180 – 44 500	Unknown	184
Total			8 184

5.7.5.2 Airfields

Civil airfields in the site region are illustrated in <u>Drawing 5.7.2</u>. These are predominantly small civil airfields or emergency landing strips located on farms. The emergency landing strips are mostly unregistered facilities used for private purposes, with no supporting facilities. As illustrated in <u>Drawing 5.7.2</u>, the following airfields are located in the site region (Planning Partners, 2021d):

- Delta 200 Airfield (4.6 km northeast);
- Morningstar Airfield (14.6 km southeast);
- Contermanskloof Airfield (19.5 km southeast);
- Grootfontein Airfield (27.0 km east-southeast);
- Fisantekraal Airfield (30.5 km east-southeast);
- Malmesbury Airfield/Diepkloof Airfield (44.1 km northeast);
- Diemerskraal Airfield (46.3 km east-northeast);

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- Stellenbosch Airfield (49.5 km southeast);
- Wintervogel Flight Park Airfield (23.9 km east-northeast).

Each of these airfields are briefly described below.

a) Delta 200 Airfield (4.6 km northeast)

The Delta 200 airfield is the nearest airfield to the site and only one of two airfields located in the site vicinity. It accommodates a flying school and skydiving club, using predominantly Cessna aircraft (propeller planes weighing less than 5.7 t) and operates daily. The airfield has one asphalt surfaced runway 20/02 measuring 800 x 8 m and three hangars. There are no control tower or landing lights. On average, approximately 60 flights depart and arrive at the airfield per week. A maximum of 1 500 ℓ of Avgas is stored on-site. The airfield does not host any special aviation events. There are currently no plans to extend the airfield in the near future. Four incidents/accidents were recorded at the airfield in the last ten years (Planning Partners, 2021d). Refer to <u>Subsection 5.7.15.1</u> for details on incidents and accidents in the site region.

b) Morningstar Airfield (14.6 km southeast)

The airfield, located in the site vicinity, has one asphalt runway 20/02, measuring approximately 670 × 8 m. The airfield operates daily, is used by 300 members and has 96 hangars. The airfield has no control tower or landing lights. The runway can accommodate aircraft smaller than 1.5 t. The busiest periods are over weekends. It is estimated that approximately 600 aircrafts arrive and depart per month. One aviation event is hosted at the airfield per year in October and attracts approximately 100 visitors. A total of 20 000 ℓ of Avgas is stored at this location. There are currently no plans for future extension of the airfield. Four incidents/accidents were recorded at the airfield in the last ten years (Planning Partners, 2021d). Refer to <u>Subsection 5.7.15.1</u> for details on incidents and accidents in the site region.

c) Contermanskloof Airfield (19.5 km southeast)

The Contermanskloof airfield has one gravel runway 17/35, measuring approximately 500×10 m. The airfield operates daily during daylight hours and has eight hangars, but has no control tower or landing lights. No aviation fuel is stored on-site. On average, approximately 100 aircraft movements are recorded per month. The airfield does not host any special aviation events. The airfield is used mainly by helicopters and

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microlights, with a maximum take-off weight of 3.8 t. There are currently no plans for future expansion of the airfield. No incidents/accidents were recorded at the airfield in the last ten years (Planning Partners, 2021d).

d) Grootfontein Airfield (27.0 km east-southeast)

The Grootfontein airfield has one gravel runway 02/20, measuring approximately 815 x 18 m. The airfield has 15 members and operates daily during daylight hours, with movements occurring mostly on weekends. It has four hangars, but no control tower or landing lights and accommodates aircraft with a maximum take-off weight of 3.8 t. No aviation fuel is stored on-site. Approximately 40 aircraft movements are recorded per month. The airfield does not host any special aviation events. There are currently no plans to expand the airfield. No incidents/accidents were recorded at the airfield in the last ten years (Planning Partners, 2021d).

e) Fisantekraal Airfield (30.5 km east-southeast)

The Fisantekraal airfield is situated approximately 10 km northeast of Durbanville. It has two concrete surfaced runways, runway 23/05, measuring 900 x 20 m and runway 14/32, measuring 700 \times 20 m. The airfield operates Monday to Saturday. It is associated mainly with civil aviation training, for both aircraft and gyrocopters, and is unmanned. The airfield has 30 hangars, but there are no control tower or landing lights. The airfield has the highest number of aircraft movements of the airfields in the site region, with an average of 600 to 1 000 aircraft movements occurring per month. The airfield does not host any special aviation events. Approximately 10 000 to 40 000 \ell of Avgas is stored on-site. Nine incidents/accidents were recorded at this airfield in the last ten years, which is the highest number of accidents recorded at an airfield in the site region. Refer to Subsection 5.7.15.1 for details on incidents and accidents in the site region (Planning Partners, 2021d). Fisantekraal Airfield was recently bought by a private company, which has announced the intension to develop the airfield into a commercial airport in future. The redevelopment plans are currently not known (Business Tech, 2021).

f) Malmesbury/Diepkloof Airfield (44.1 km northeast)

The Malmesbury airfield, also known as Diepkloof, has one asphalt surfaced runway 01/19, measuring 800 x 9 m and one hangar. There are no control tower or landing lights. The runway can accommodate aircraft with a maximum take-off weight of 7.0 t. Fuel stored on-site includes

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Jet-A1 and Avgas. Fuel volumes vary as required during the crop spraying season. The airfield is used predominantly for crop spraying purposes and predominantly in the winter months. Previously, flight movements averaged 10 flights per month in summer and up to 200 flights per month in the winter (June to August). Periodically, para-jumping and skydiving take place. The airfield does not host any special aviation events. There are currently no plans to expand the airfield. No incidents/accidents have been reported at the airfield in the last ten years (Planning Partners, 2021d).

g) Diemerskraal Airfield (46.3 km east-northeast)

The Diemerskraal airfield is a civil airfield for small aircraft, which operates during daylight hours and seven days a week, with 21 members. It has one gravel runway 04/22, measuring 840 x 20 m and 10 hangars, but no control tower or landing lights. A total of approximately 60 aircraft movements are recorded per month. The airfield stores approximately 30 000 ℓ of Avgas and 23 000 ℓ of JetA1. There are plans to add an additional 1 000 m long runway and another 15 hangars. No incidents/accidents have been reported at this airfield in the last ten years.

h) Stellenbosch Airfield (49.5 km southeast)

The Stellenbosch airfield is a private airfield for small aircraft and operates 24 hours per day and seven days a week. It has one surfaced runway 01/19, measuring 760 x 16 m and 65 hangars. There is no control tower at the airfield, but landing lights are in place. The Stellenbosch Flying Club operates from the airfield and has 300 members. The airfield is also open to general aviation whereby small aircraft can arrive/depart at any time. A total of approximately 600 aircraft movements are recorded per month. One special aviation event is hosted at the airfield per year in March or August and attracts approximately 500 visitors. The airfield stores approximately 20 000 \(\ell \) of Avgas. There are currently no plans for future development at this airfield. Six incidents/accidents have been reported at this airfield in the last ten years (Planning Partners, 2021d). Refer to Subsection 5.7.15.1 for details on incidents and accidents in the site region.

i) Wintervogel Flight Park (23.9 km east-northeast)

The Wintervogel Flight Park airfield has two grass/gravel runways: 02/20, measuring approximately 961×8 m and 08/26, measuring approximately 720×8 m. The airfield operates daily with 30 members. It

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has no control tower or landing lights, but has five hangars. The largest aircraft that can be accommodated is an 8-seater light aircraft. The airfield accommodates the Aerosport Flight School and is also used by the SA Airforce for night-time helicopter training. Approximately 100 arrivals and departures are recorded per month. The only future plan is to install runway lights. One accident was recorded at this airfield in 2013 (Planning Partners, 2021d). Refer to <u>Subsection 5.7.15.1</u> for details on incidents and accidents in the site region.

j) Emergency Landing Strips

There are numerous airstrips and emergency landing strips without facilities on farms distributed throughout the site region. These are mainly unregistered facilities used for private use (Planning Partners, 2021d).

5.7.5.3 Helipads

There are 50 helipads located in the site region (refer to <u>Drawing 5.7.2</u>). They are mostly associated with hospitals and other emergency services. Since the 2008 to 2013 survey included in the previous DSSR (Eskom, 2015), 15 additional helipads were recorded. Some of these new helipads are located at new hospitals constructed after 2013 and new helipads constructed at tourism and commercial enterprises. <u>Table 5.7.7</u> lists the name and location of the helipads in the region (Planning Partners, 2021d).

Table 5.7.7 Helipads (2020)

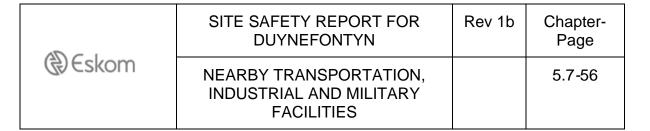
Location	Distance (km)	Direction
Koeberg Bravo	1.58	NNE
Duynefontein	1.93	ESE
Koeberg Alpha	1.96	ENE
Koeberg Delta Mike	2.16	E
Melkbosstrand Country Club	4.38	SSE
Koeberg Charlie	8.10	NNE
Atlantis Industria	10.31	NNE
Big Bay NSRI	11.87	SSE



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Location	Distance (km)	Direction
Wesfleur Hospital	12.84	NNE
Blaauwberg Netcare	13.72	SSE
Robben Island	14.23	SSW
Milnerton Mediclinic	20.26	SSE
Somerset Hospital	22.76	S
AFB Ysterplaat	23.40	SSE
AGA Blackriver	23.45	S
The Docks	23.75	S
Christiaan Barnard Memorial Hospital	24.08	S
Panorama Mediclinic	24.76	SSE
Groote Schuur Hospital	26.53	S
Durbanville Mediclinic	26.82	SE
Vincent Palotti Hospital	27.33	SSE
Karl Bremer Hospital	28.02	SE
Red Cross Hospital	28.37	S
Presidential Residence, Newlands	28.91	S
Newlands Fire 1 & 2	29.4	S
Tygerberg Hospital	29.71	SSE
Twelve Apostles Hotel	31.59	S
2 Military Hospital	32.83	S
Fidelity ADT, Philippi	33.98	SSE
CTIA	34.26	SSE
Ottery Fire Station	35.12	SSE
Constantia Mediclinic	35.15	S
Kuils River Fire Station	36.02	SE
Malmesbury Hospital	36.58	NE



Location	Distance (km)	Direction
Zevenwacht	39.03	SE
Mitchells Plain Hospital / Conradie Care	39.08	SSE
Capricorn Park	41.81	S
Eerste River Hospital	43.18	SE
Khayelitsha Hospital	44.58	SSE
SA Army Infantry 9	44.84	SE
False Bay Hospital	45.38	S
Stellenbosch Fire and Rescue	50.97	ESE
Lanzerac	53.02	ESE
Paarl Provincial Hospital	54.15	E
Boschendal	57.90	ESE
Hottentots Holland Hospital	58.36	SE
Vergelegen Mediclinic	59.46	SE
Picard	63.96	ESE
Rickety Bridge	70.77	ESE
Klein Champagne	72.39	ESE

5.7.5.4 Flight Routes and CTIA Standard Arrival and Departure Routes

Air routes and restricted flying zones above the site region are depicted in <u>**Drawing 5.7.2**</u>. Note that height above mean sea level (amsl) in the drawing is given in feet.

Air Traffic Navigation Services (ATNS) has confirmed that the historic flight routes that were reported on in the previous DSSR have largely been replaced by new flight routes, which follow new alignments. Aircraft predominantly fly within these new flight routes, but the previous flight routes are still in place. The positions of these flight routes are included in *Drawing 5.7.2* (Planning Partners, 2021d). Most commercial aircraft passing through the site region arrive at or depart from the CTIA. Aircraft are directed to use the CTIA Standard Arrival Routes and Standard Departure Routes when arriving or departing from the CITA. However, pilots may request to divert from these standard routes in order to save

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flight time and may therefore fly along different flight paths within the site vicinity. These diversions are at the discretion of the CTIA control tower. Refer to *Figure 5.7.3*, which illustrates the CITA Standard Arrival Routes and Standard Departure Routes (Civil Aviation Authority, 2021).

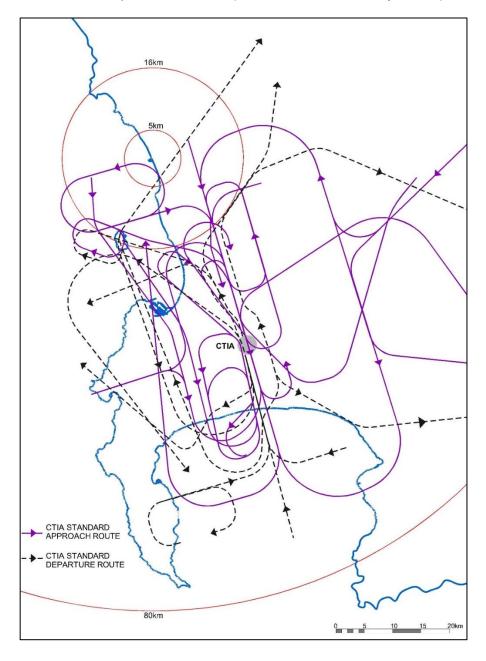


Figure 5.7.3

Cape Town International Airport Standard Arrival and
Departure Routes

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CTIA is the main centre for air traffic control in the area and the site falls within the Cape Town Control Area (CTA) of this airport. The CTA has four Terminal Control Areas (TMA) and the site is located within the Cape Town TMA "A" area (Planning Partners, 2021d).

The immediate airspace above the Duynefontyn site has already been declared a restricted flying area (FAR36), ranging from ground level to 610 m (2 000 ft) amsl (Planning Partners, 2021d).

To the south of the site is a Danger Area (FAD 200A) from ground level to 610 m (2 000 ft) amsl and to the north of the site is a Danger Area (FAD 200B) from ground level to 1 220 m (4 000 ft) amsl. Above these areas is controlled airspace, namely the Cape Town TMA 'A' and TMA 'B' (Planning Partners, 2021d).

The Cape Town TMA 'A' to the south of the Duynefontyn site is from 762 m (2 500 ft) to 2 591 m (8 500 ft) amsl and the Cape Town TMA 'B' to the north of the site is from 1 372 m (4 500 ft) to 2 591 m (8 500 ft) amsl. The Cape Town CTA applies from 4 420 m (14 500 ft) to 5 944 m (19 500 ft) amsl (Planning Partners, 2021d).

A restricted flying area (FAR45A) has been declared around the Langebaanweg and Somersveld military airfields near Saldanha. The FAR45A restricted flying area applies from 457 m (1 500 ft) amsl to 5 944 m (19 500 ft) amsl, and is located to the north and outside of the site region (refer to **Drawing 5.7.2** and **Figure 5.7.4**) (Planning Partners, 2021d).

<u>Figure 5.7.4</u> illustrates the location of the Duynefontyn site relative to the nearest flight routes, CTIA Terminal Control Areas and applicable restricted flying areas. Note that the UW63 Class A flight route that was the nearest flight route to the site at the time of the previous DSSR has been discontinued. The nearest flight routes to the site is the UA 405 Class A flight route (between 24 500 and 28 000 ft amsl) and the UQ62 (between 24 500 and 45 000 ft amsl) (Eskom, 2015), (Planning Partners, 2021d).

Smaller aeroplanes and helicopters are used for non-scheduled flights and these do not use air routes. Crop spraying also occurs in the site region and only fly at low levels (Planning Partners, 2021d).

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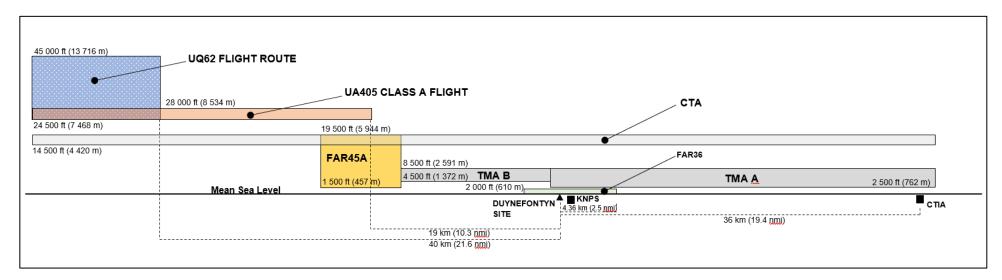


Figure 5.7.4
Location of the Site relative to the Nearest Flight Routes, CTIA Terminal Control Areas and Restricted
Flying Areas

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5.7.5.5 **Drones**

In August 2016 a drone crashed onto the Duynefontyn site. Data were therefore collected on drones for the purpose of the partial update of Section 5.7.

In 2015 the Minister of Transport signed the eighth amendment of the Civil Aviation Regulations, 2011. The amendment, which contains Part 101: Remotely Piloted Aircraft Systems, came into operation on 1 July 2015.

In terms of the regulations, drones may be utilised for commercial operations, corporate operations, non-profit operations and private operations. Further, no person shall act as a remote pilot, except when undergoing a skill test or receiving flight instruction, unless he or she is in possession of a valid remote pilot licence in the relevant category. Unless approved by the SACAA, it is not permitted to fly or operate an unmanned aerial system (UAS) or toy aircraft near, adjacent to or above a nuclear power plant.

In 2022 there were 26 drone license holders, up from 24 registered with the SACAA in 2018 and 86 UAS operators.

Notwithstanding the current low numbers of licensed operators, demand for drones is increasing in South Africa over a number of sectors including: agriculture, mining, insurance, construction, conservation and medical services.

As reported by Eskom, since the incident in 2016, there have been no further incidents or sightings of drones on or near the site (Planning Partners, 2024).

5.7.5.6 Future Air Transport and Aircraft Movements

CTIA is the only commercial airport in the site region. ACSA commissioned a development framework to guide the future expansion of CTIA, which culminated in a Master Plan, dated September 2001. This Master Plan was reviewed and updated in 2006. A further review resulted in an updated Master Plan, dated 2008, which aims to achieve the following (Planning Partners, 2021d):

 integrated land use, including an expanded passenger terminal area and commercial areas;

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- enhanced public transport links, including the possibility of a railway line and station;
- independent parallel runway operations, therefore requiring the re-alignment of the existing runway, which was later augmented with the addition of a second parallel runway;
- an ultimate peak runway capacity of up to 40 to 44 air traffic movements (ATM) per hour.

ACSA estimated that passenger growth within the near future is expected to increase to 13 million per year by 2022 and 19 million by 2032 (Planning Partners, 2021d).

As a first phase of the Master Plan, ACSA proposes to construct a new runway, rotated counter-clockwise by 11.5 degrees, to replace the existing primary runway (Runway 01/19). The northern end of the proposed new runway (Runway 18/36) will be positioned 220 m to the east of the current Runway 01/19 and will be 3 500 m in length (see *Figure 5.7.5* and *Figure 5.7.6*). It will comply with international specifications for Code F aircraft (wingspan of 65 m and more, e.g. Airbus A380), increasing the runway capacity and enabling future airport passenger capacity expansion (Planning Partners, 2021d).

In addition to the re-alignment of the primary runway, the project will also include (Planning Partners, 2021d):

- a taxiway system;
- infrastructure such as an aircraft isolation pad, a compass calibration pad and an aircraft run-up area;
- security facilities including a perimeter fence;
- additional and improved buildings and service infrastructure.

Note that ACSA suspended the project in 2020 due to economic circumstances. Since the project may commence in future, details on the development proposals are provided in this report (Planning Partners, 2021d).

Once the runway is re-aligned, flight paths for aircraft approaching and departing the airport will change. Runway 18/36 will allow capacity at the airport to increase from 30 ATM per hour (if the existing runway operates

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at maximum capacity) to 40 to 44 ATM per hour. Aircraft arrival and departure times are not expected to be extended in the foreseeable future (Planning Partners, 2021d).

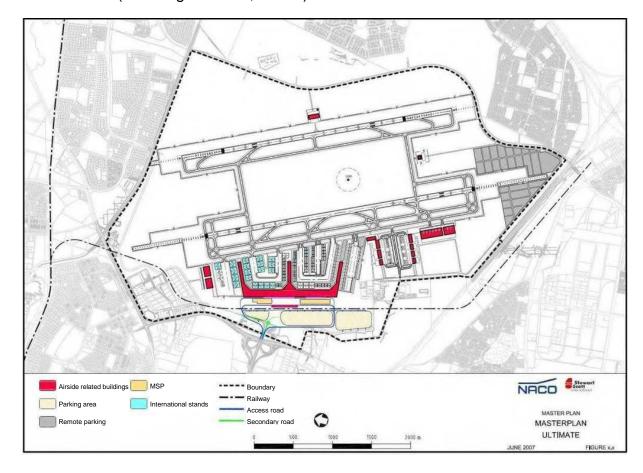


Figure 5.7.5 CTIA Master Plan (2008)

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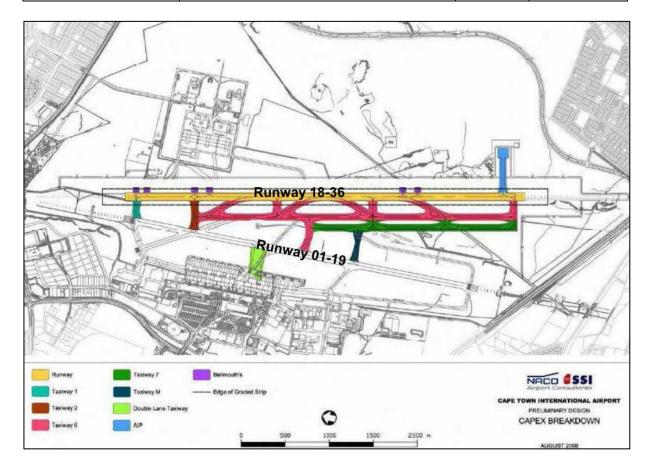


Figure 5.7.6
Proposed Development included in EIA (2016)

The US NRC's standards (U.S. Nuclear Regulatory Commission, 1978a) uses the formula 1 000 d², where "d" refers to distance in miles, to calculate the threshold for projected aircraft movements per year at airports near a nuclear installation site, above which, a detailed assessment of aircraft incidents and accidents would be required. CTIA can currently accommodate a maximum of 262 800 aircraft movements/y (30 movements/hour). Data collected for the January to December 2018 period recorded only 101 550 movements/y (representing 1 000 d² formula 12 movements/hour). The for CTIA south-southeast) results in a threshold of 500 390 aircraft movements/y. Future plans for the reconfigured runway and a second runway will increase the capacity to accommodate 385 440 aircraft movements/y, which is lower than this threshold. According to the US NRC standard, a detailed assessment of aircraft incidents and accidents is therefore not required. However, an aircraft accident evaluation was performed for the

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purposes of *Chapter 6* of the DSSR.

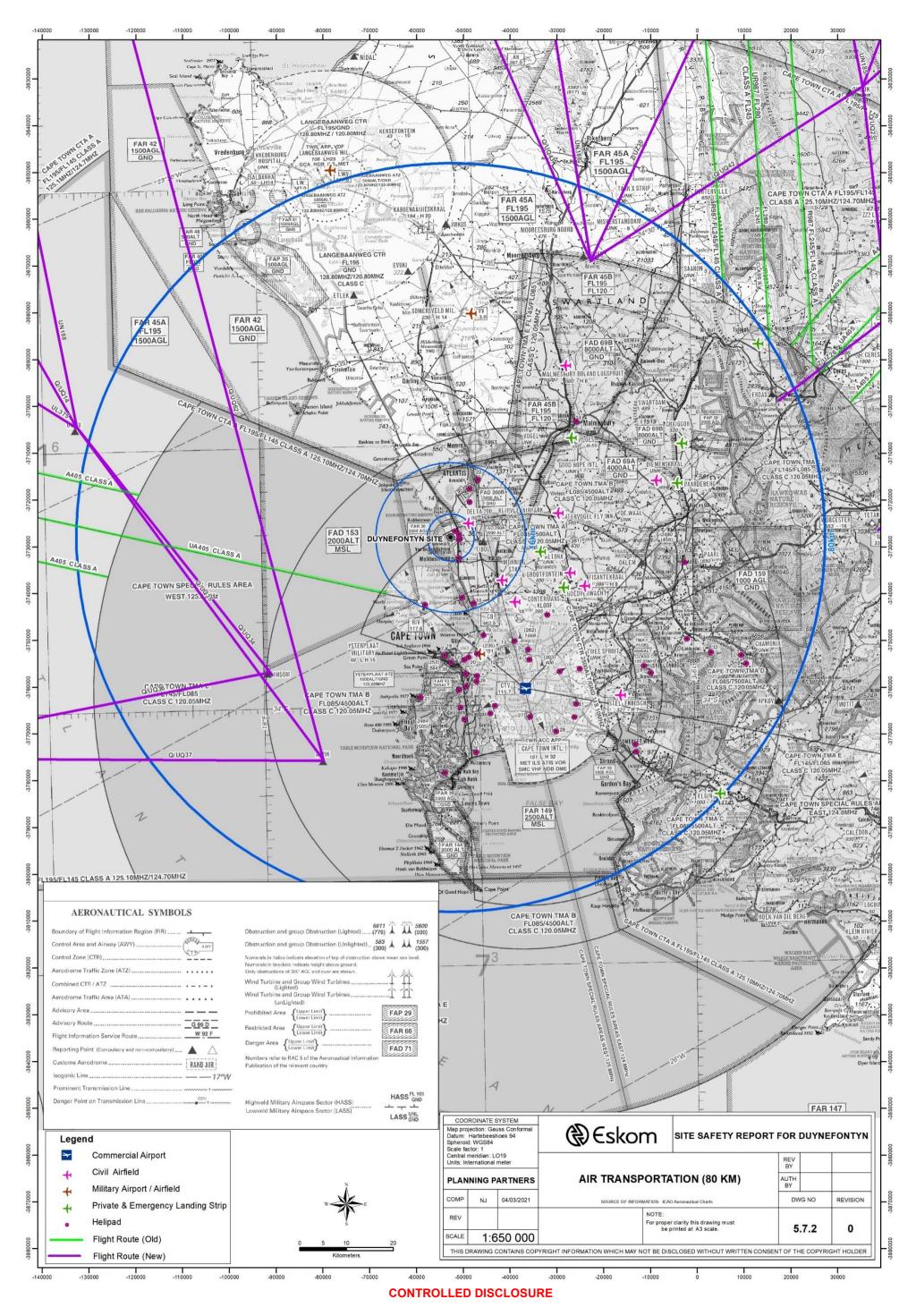
A number of potential sites for a second commercial airport for Cape Town have been evaluated. One of these is a site located between the N7 Freeway and the R304 Road, east of Atlantis. This proposal was included in the 2010 Cape Town Municipality Spatial Development Framework (MSDF), but has been omitted in the latest 2018 MSDF (Planning Partners, 2021d).

Another airport has also been proposed on a site 7 km south of Malmesbury, called the Good Hope International Airport. This initiative is privately funded and is currently still in the planning phase. An application for an aerodrome license was submitted in 2007 (Planning Partners, 2021d).

Fisantekraal Airfield has been recently bought by a private developer, who has announced its intension to redevelop the airport into a commercial airport second to CTIA. The timeline for this development is not currently known (Business Tech, 2021).

The Saldanha Bay Municipal Spatial Development Framework envisages that AFB Langebaan could serve as a dual-purpose airport for military and commercial flights to cater for future air commuter transport associated with growth in the area. The timeline for this development is not currently known (Planning Partners, 2021d).

It is important that proposed improvements at the existing and planned airports in the region should be monitored during the nuclear installation lifetime as such improvements could result in significant increases in air traffic in the site region. This may require that further restrictions on air traffic in the site vicinity may need to be imposed in terms of the Aviation Act, 2009, and/or re-evaluated (Planning Partners, 2021d).



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5.7.6 Road Transportation Network and Associated Infrastructure

The results of the characterisation and description of the regional road transport network are presented in this section, with the up-to-date description of the current network and associated infrastructure. The characteristics that are important for nuclear safety (e.g. potential external hazards) or important for emergency planning were also determined and presented in this subsection. Planned extensions or improvements to the transportation network were identified.

The investigation is based on the data presented in the previous DSSR (Eskom, 2015) and the investigation determined if the data previously provided are still current and valid. Additional and updated data were also obtained where relevant, e.g. background traffic determination and traffic counts undertaken by GIBB (GIBB, 2021).

5.7.6.1 Existing Road Network

The main road network in the site region is discussed below and illustrated in <u>Drawing 5.7.3</u> and <u>Drawing 5.7.4</u>. The major north-south roads include the following (Planning Partners, 2021a):

- N7 Freeway (Class 1, principal arterial), 11 km east: The road serves as a north-south national route that provides the primary link between the Cape Town Metropolitan Area (CMA) and the Northern Cape. The road is a dual carriageway (two lanes per direction) for the entire road section in the site region. The following five grade-separated interchanges along the N7 Freeway can give access to the site:
 - o the link to the Klein Dassenberg Road (20 km east-northeast);
 - o the link to the Philadelphia Road (R304) (12.4 km east);
 - the link to the Melkbosstrand Road (M19) (12.8 km east-southeast);
 - the link to Malibongwe Drive at Du Noon (19.4 km south-southeast);
 - the link to the Blaauwberg Road (M14) at Milnerton (22.5 km south-southeast).
- R27/West Coast Road (Class 1, principal arterial), 2.3 km east: The road serves as a secondary north-south regional distributor, with the

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additional function of providing limited local rural access. The R27 Road links the CMA with the northern West Coast areas. This road provides access to the site and is a dual carriageway from Table Bay Boulevard to Sandown Road, Sunningdale. Thereafter, it is a single carriageway with one lane in each direction. The MyCiTi commuter bus service uses this road, linking Atlantis with the Cape Town Central Business District (CBD).

- M14 Road (Class 5, local street), 21 km south-southeast: A portion
 of the road (Marine Drive and Otto du Plessis Drive) runs along the
 coast, parallel to the R27 and connects it to Melkbosstrand. It can
 also provide an alternative access road to the site (see

 <u>Drawing 5.7.4</u>).
- R307 Road (Atlantis-Mamre Road, Class 2, major arterial), 2.6 km north: It connects the R27 with Atlantis and Mamre.
- Old Malmesbury Road (Class 3, minor arterial), 16 km east-southeast: The road serves as a secondary route between Malmesbury and the CMA, as well as an access route to the surrounding farms.
- R45 Road (Class 1, principal arterial), 42 km east-northeast: A regional distributor that links Saldanha with Malmesbury, Paarl, Franschhoek and further east to Villiersdorp.
- R44 Road (Class 1, principal arterial), 45 km east-northeast: A regional distributor that links the towns of Tulbagh, Ceres and Porterville with Paarl, Stellenbosch, Somerset West, Strand and coastal towns further east.
- R303 Road (Class 2, major arterial), 57 km east: The road links Wellington, through Bain's Kloof Pass, with Wolseley.

The Cape Metropolitan area contains numerous other north-south routes, ranging in purpose from distributor to activity routes and local access roads.

Current east-west traffic movements in the site region are served by the following major roads (see **<u>Drawing 5.7.3</u>** and **<u>Drawing 5.7.4</u>**) (Planning Partners, 2021a):

 Big Bay Boulevard (Class 3, minor arterial), 14.3 km south: The road links Otto Du Plessis Drive (M14) with the R27.

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- Klein Dassenberg Road (Class 2, major arterial), 12.5 km northeast:
 The road serves as a link between the R304 and the N7.
- R304/Philadelphia Road (Class 2, major arterial), 8.5 km east-northeast: It serves as a link between the Mamre Road (R304), the N7 and rural farming areas to the east.
- M19/Melkbosstrand Road (Class 2, primary arterial), 6 km south:
 The road serves as a link between the R27 and the N7.
- Portion of the M14 Road (Blaauwberg Road, Plattekloof Road, Class 3, minor arterial), 21 km south-southeast: It provides access between the R27 and the N1 in the east.
- N1 Freeway (Class 1, principal arterial), 25 km south-southeast: The national distributor that links the CMA to the northern areas of the country.
- N2 Freeway (Class 1, principal arterial), 31 km south-southeast: The national distributor that links the CMA to the eastern areas of the country.

5.7.6.2 Traffic Volumes

GIBB undertook a new assessment of traffic volumes on the road network in November 2020 (GIBB, 2021). The AM, midday and PM traffic volumes in the site vicinity were recorded at 19 intersections and 7 link count locations. The results of the main route locations are shown in *Drawing 5.7.4* and in *Table 5.7.8*. Note that the traffic counts were undertaken during COVID-19 Lockdown Level-1. However, the study concluded that, given that the background traffic will be used in an evacuation model, the risk of underrepresented traffic flows is considered to be low. For this reason, it was considered acceptable to use the surveyed 2020 traffic flows without adjustment as the 2020 background traffic for traffic simulation purposes.

Note that the 2020 traffic count methodology differs to the traffic counts undertaken in 2005 and 2008, in that the 2005 and 2008 counts represented the total number of traffic movements along a route per day (one figure), whereas the 2020 traffic count represents peak AM, midday and PM figures (three figures) (GIBB, 2021).

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Table 5.7.8
Traffic Counts: AM, Midday and PM (2020)

Road		АМ	Midday	PM		Per
	Direction	07:00- 08:00	12:45- 13:45	16:15- 17:15	Total	Cent Trucks
R27/Silverstroom Road intersection	North	136	169	195	500	10.4
	South	185	206	178	569	10.2
	West	9	6	7	22	13.6
	East	12	10	22	44	2.3
	North	133	169	175	477	9.2
R27/R307 intersection	South	542	362	404	1 308	6.9
	East	303	192	395	890	6.7
	North	396	336	506	1 238	6.1
KNPS access off R27	South	509	371	568	1 448	6.2
	West	282	24	9	315	0.6
	North	566	373	506	1445	5.5
R27/Melkbosstrand (M19) intersection	South	564	422	486	1 472	4.7
	West	376	337	397	1 110	0.7
	East	689	323	504	1 516	3.9
Klein Dassenberg	West	195	83	109	387	5.2
Road	East	117	101	173	391	9.2
Old Mamre Road	North	253	253	398	904	4.9
(R304)/Klein Dassenberg Road	South	403	193	215	811	5.9
intersection	East	95	89	144	328	8.5
Dhiladalahia Daad	West	318	225	469	1 012	11.6
Philadelphia Road	East	398	88	160	646	16.9
N7, north of	North	213	283	426	922	19.7
Philadelphia Road	South	473	263	233	969	23.8
N7, south of	North	339	460	596	1 395	13.5
Philadelphia Road	South	866	461	377	1 704	11.7

5.7.6.3 Public Transportation Network

The public transport services available in the site vicinity are shown in *Figure 5.7.7*. In general, most public transport services are provided in a north-south direction with very little east-west linkages, the latter being served by minibus taxis (Planning Partners, 2021a). The following

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subsections provide information on the public transportation components.

a) Minibus Taxis

Local minibus taxi services are available along the West Coast Road (R27) and within the Melkbosstrand and Duynefontein suburbs. The minibus taxi services mainly connect Melkbosstrand to Duynefontein and Table View. Minibus taxis also stop on the R27/West Coast Road at the access road to the KNPS and near the bus terminus at the KNPS. Regional minibus taxi services operate along the R27/West Coast Road between the CMA and Atlantis, Malmesbury, Vredenburg, Saldanha and Vredendal (Planning Partners, 2021a).

b) MyCiTi

The MyCiTi bus trunk and feeder services operate along the West Coast Road (R27) and in and around Melkbosstrand and Duynefontein. A MyCiTi stop is located on the R27 Road at the intersection with the KNPS access road. MyCiTi bus trunk services operate between Melkbosstrand, Table View, Century City, Atlantis and the Cape Town CBD. MyCiTi bus feeder services operate between Melkbosstrand, Duynefontein and Table View (Planning Partners, 2021a).

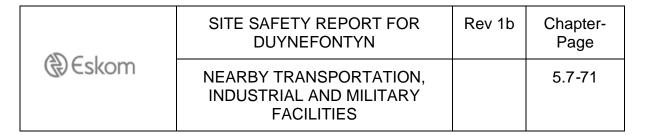
c) Golden Arrow Bus Service

The Golden Arrow Bus Service operates along the West Coast Road (R27) and in and around Melkbosstrand and Duynefontein. A bus terminus is located on the KNPS site. There are two bus stops in both directions in close proximity to the intersection with the KNPS access road. Local bus routes operate between Melkbosstrand, Atlantis, Table View and various areas in and around the CMA (Planning Partners, 2021a).

d) Other Bus Services

The Western Cape Government's Greater Saldanha regional bus routes operate between the CMA and Malmesbury.

Two commercial bus services operate between the CMA and Saldanha Bay (operated by Elwierda), as well as between the CMA and the Northern Cape and Namibia (operated by Intercape) (Planning Partners, 2021a).



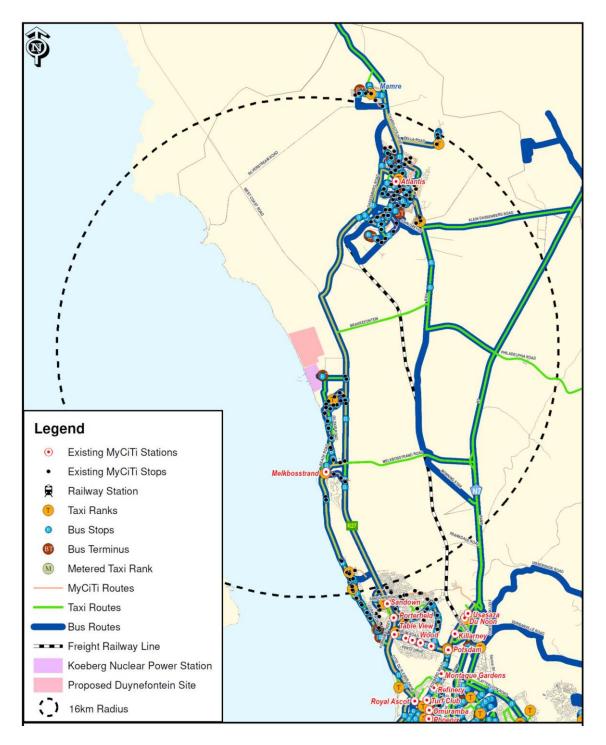


Figure 5.7.7
Existing Public Transport Network in the Site Vicinity

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5.7.6.4 Off-road Activities

The nearest location to the site where off-road activities take place is the Atlantis Dunes, located 8.1 km north (ADORE, 2021). Additional off-road experiences are provided 14.5 km east-southeast. Vehicles include 4x4 vehicles and quad bikes.

5.7.6.5 Future Road Network

According to the City of Cape Town, the following road scheme proposals, as shown in **Drawing 5.7.4**, are planned in the site vicinity (Planning Partners, 2021a):

- The existing unsurfaced Brakkefontein Road (Class 5) will be upgraded to a surfaced Class 2 road for approximately 4 km from the R27 Road (Class 1) and will align with Philadelphia Road (Class 2) via a new link road. The new link road will then extend further south and intersect with Melkbosstrand Road (Class 2) and Malibongwe Drive (Class 2).
- A new Class 1 road, the R300 ring road, is proposed south of Brakkefontein Road, which will form a linkage between the R27 Road (Class 1) and the N7 Freeway and continuing on to the N1 Freeway, from where the existing R300 links to the N2 Freeway.
- Four new interchanges are also planned along the proposed Class 1 road between the R27 Road and the N7 Freeway, i.e. at the R27 Road (Class 1), the proposed Class 2 road parallel to the R27 Road, the Brakkefontein Road extension (Class 2) and the N7 Freeway (Class 1).

The status of these road scheme proposals is however unknown and they are not expected to be implemented in the short to medium-term. This however will need to be monitored.

In addition, the following are proposed major road network upgrades in the site region (Planning Partners, 2021a):

- FW de Klerk Drive: additional lanes and Foreshore Freeway;
- upgraded N1 Freeway collector distributor roads;
- Jakes Gerwel Drive upgrade to freeway standard;

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- additional lanes on the N1 Freeway;
- additional lanes on Jan Smuts Drive;
- additional lanes on Stellenbosch Arterial;
- additional lanes on the N2 Freeway;
- Hout Bay Main Road upgrade;
- R300 southern extension to M5 and additional lanes on De Waal Road (M38);
- Kommetjie Road and Ou Kaapseweg upgrades.

5.7.7 Rail Transportation Network and Associated Infrastructure

The results of the characterisation and description of the regional rail transport network are presented in this section, with the up-to-date description of the current network and associated infrastructure. The characteristics that are important for nuclear safety (e.g. potential external hazards) were determined and are presented in this subsection. Planned extensions or improvements to the transportation network were identified.

The investigation is based on the data presented in the previous DSSR (Eskom, 2015) and the investigation determined if the data previously provided were still current and valid. Additional and updated data were also obtained where relevant.

5.7.7.1 Existing Rail Network

There is only one north-south railway line in the site vicinity, namely the Atlantis railway line, which is a low volume goods line that runs approximately 6 km east of the site, connecting with the Bellville Monte Vista suburban line system at the Century City railway station (refer to **Drawing 5.7.3**). Currently, the line is underutilised and there are plans to convert a portion of the line into a passenger line (between Century City and a proposed Blouwbergvlei station, west of the Vissershok Waste Disposal Site) (Planning Partners, 2020b).

The Namaqualand (Bitterfontein) line is the main goods line which runs past Kalbaskraal and Malmesbury, located approximately 24 km east of the site. This line is classified as a heavy rail with a track gauge of

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1 065 mm. The line carries mostly minerals, stone and cement (Planning Partners, 2020b).

Neither of the above two railway lines are electrified (Planning Partners, 2020b).

5.7.7.2 Passenger Rail Services

The extensive railway network within the CMA and surrounding site region is operated and managed by the Passenger Rail Agency of South Africa (PRASA). The furthest stations in the site region that are operated by PRASA are Malmesbury in the north and Worcester in the east (Planning Partners, 2020b).

The only railway line in the site region that is used for long distance passenger trains is the Cape Town-Johannesburg route, running through Worcester. Note that there are no passenger lines currently located in the site vicinity. The nearest passenger lines and railway stations to the site are located at Kalbaskraal (23 km east-northeast) and Acasia Park (26 km south-southeast).

The abovementioned railway lines mostly accommodate passenger commuting trains, but a few freight and tourism trains also utilise some of these lines (Planning Partners, 2020b).

Tourism trains include the Blue Train and Rovos Rail that utilise the Cape Town-Johannesburg route, running through Worcester. An additional tourism train in the site region is the Ceres Railway Company, which runs between the Cape Town foreshore and Grabouw (Planning Partners, 2020b).

5.7.7.3 Marshalling and Loading Yards

There are two marshalling and loading yards located in the site region at the following locations (see *Drawing 5.7.3*):

a) Culemborg (28.6 km south-southeast)

The area around the Culemborg marshalling yard is planned to be developed for urban and port-related purposes, due to the expansion of the Port of Cape Town Container Terminal. The Cape Town MSDF supports the redevelopment of the site for intensification and mixed use. The extent to which the land will be available for urban development in future is currently not known. However, it is expected that the marshalling

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yard will be retained to serve future port freight demand (Planning Partners, 2020b).

b) Bellville (32.7 km southeast)

The Belcon inter-modal hub, 23.3 ha in extent, is core to Transnet operations and contains a container terminal. The terminal has the capacity of 56 000 Twelve-foot Equivalent Units (TEU) per year, with potential to be upgraded to 756 000 TEUs per year by 2034 (Planning Partners, 2020b).

5.7.7.4 Future Rail Infrastructure

According to the City of Cape Town Integrated Public Transport Network Plan (IPTN Plan), the proposed Atlantis commuter rail corridor aims to link the Cape Town CBD with the Bloubergstrand area, terminating at the proposed Blouwbergvlei station, west of the Vissershok Waste Disposal Site. Initially, the aim was to connect Atlantis, but the feasibility study concluded that it was not financially feasible to extend the railway route further to Atlantis, at this time. The results of household travel surveys and travel demand modelling also showed that the passenger demand in the Atlantis and Fisantekraal corridors does not warrant commuter rail services in these corridors within the next 20 years. However, the IPTN Plan does include the planned upgrading of the existing Atlantis freight line for commuter use with electrification and passenger stations at Summer Greens, Chempet, Kynoch, Caltex, Du Noon, Parklands, Bloubergsvlei and Atlantis (Planning Partners, 2020b).

The City of Cape Town Comprehensive Integrated Transport Plan also does not include the existing line to Atlantis being converted to a passenger line in the short to medium-term (Planning Partners, 2020b).

The initial planning for the Atlantis railway line corridor consisted of the following four phases (Planning Partners, 2020b). Note that the current planning reports do not include details to confirm if these plans are still tabled.

- Phase 1: the doubling and electrification of the existing freight line from Century City station to Du Noon, as well as a reverse loop to link with the Bellville line and the construction of Summer Greens, Chempet, Kynoch and Du Noon stations;
- Phase 2: the linkage of the Atlantis line with the Khayelitsha line across Wingfield and the construction of two stations;

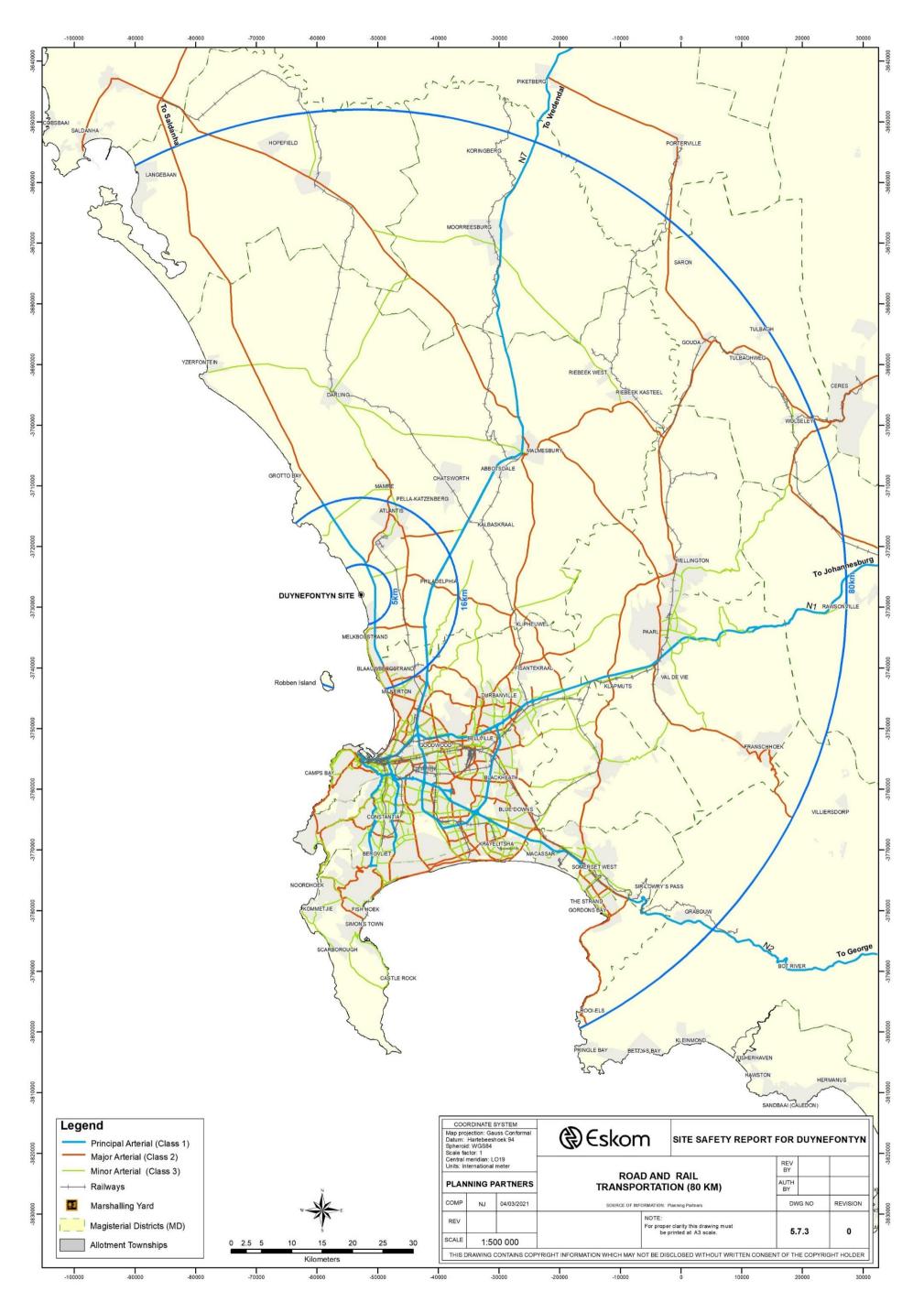
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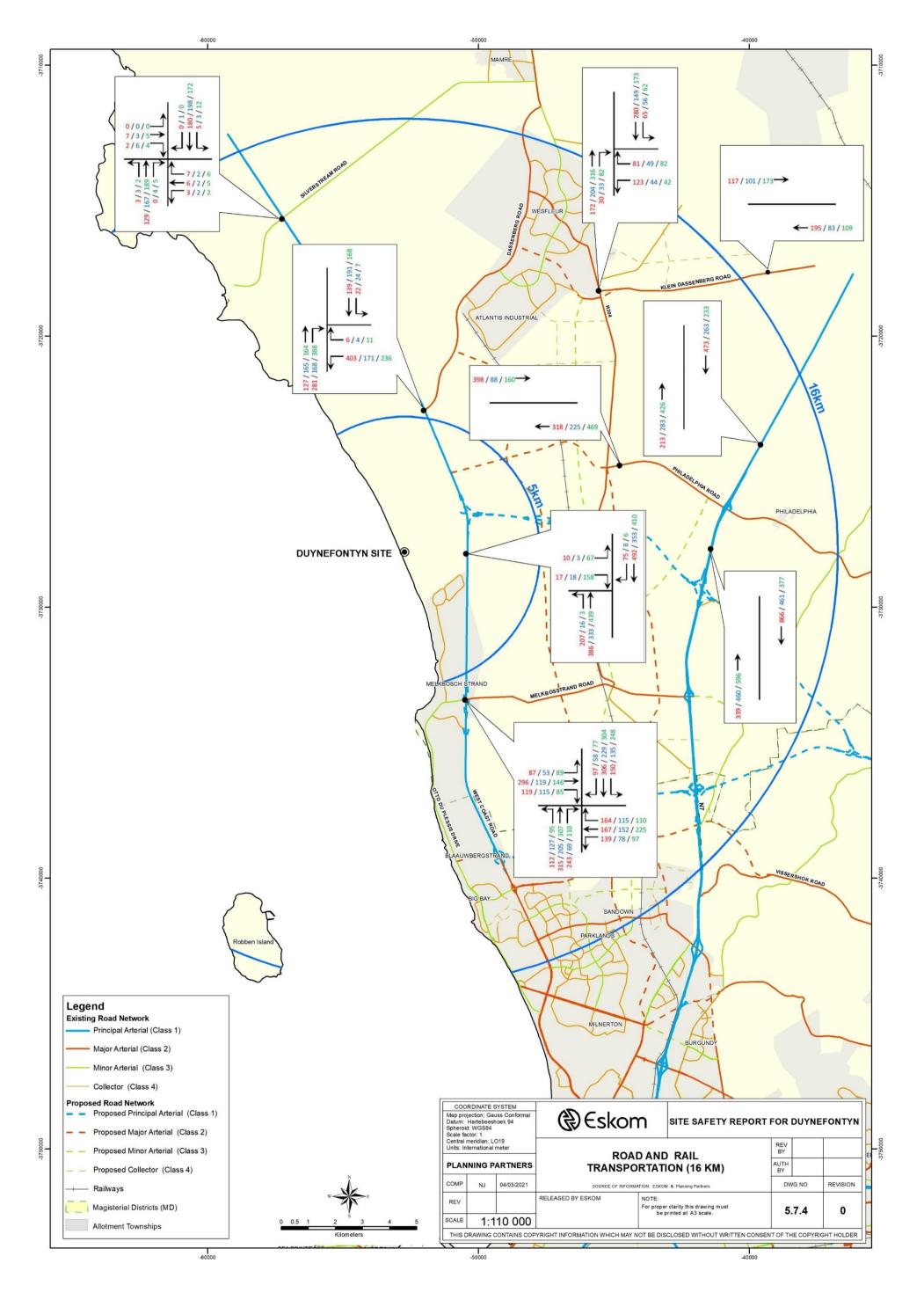
- Phase 3: the extension from Du Noon station to a proposed Bloubergsvlei station (west of Vissershok waste disposal site) and the construction of Parklands and Bloubergsvlei stations;
- Phase 4: an additional double line from the Century City station to Cape Town station;
- the construction of a railway line between the Summer Greens and Acacia Park stations (Atlantis Line to Monte Vista) loop.

The Transnet Infrastructure Plan and Western Cape Government Freight Strategy aim to transport approximately 80 per cent of containerised cargo transported inland from and to the Port of Cape Town by rail. It can therefore be assumed that the freight railway lines in the site region will carry more container volumes in future. Development may include the upgrade of the inter-port connection between the Port of Saldanha and the Port of Cape Town if container volumes on this line increase. Note that the Atlantis freight line does not form part of these possible upgrades (Planning Partners, 2020b).

Additional improvements include a new line from Nolungile Station to Kuilsriver Station through the Blue Downs area. The new 9 km long line will be electrified and consist of a double track with three stations along its length, at Mfuleni, Blue Downs and Wimbledon. At the southern end, the line should include connections to/from Nolungile station and to/from Nonkqubela station. At the northern end, connections will only permit trains to operate to/from Kuilsriver Station and not to/from Blackheath station. It is also planned to electrify the Kraaifontein to Fisantekraal section along the Malmesbury-Fisantekraal-Kraaifontein line. The doubling of the Fisantekraal line, the Blue Downs line and the Chris Hani rail extension to Firgrove station is also planned (Planning Partners, 2020b).

A new container rail hub is planned at Kraaifontein (Planning Partners, 2020b).





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5.7.8 Marine Transportation Network and Associated Infrastructure

The results of the characterisation and description of the regional marine transport network are presented in this subsection, with the up-to-date description of the current network and associated infrastructure. The characteristics that are important for nuclear safety (e.g. potential external hazards) were determined and presented in this subsection. Planned extensions or improvements to the transportation network were identified.

The investigation is based on the data presented in the previous DSSR (Eskom, 2015) and the investigation determined if the data previously provided were still current and valid. Additional and updated data were also obtained where relevant.

5.7.8.1 Commercial Ports

a) Port of Cape Town

i) Overview

The commercial Port of Cape Town (26.2 km south, H4 in <u>Drawing 5.7.5</u>) is the largest and most important harbour in the site region. The port is managed by Transnet National Ports Authority (TNPA), a division of Transnet Ltd., and operates 24 hours a day and 365 days a year. TNPA handles all aspects of port management and control, compliance, management of hazardous substances and the maintenance of port infrastructure, including the quays, buildings and the leasing of all unused land for port-related activities (Planning Partners, 2021b).

The port includes a land area of 253 ha and a water area of 9 163 ha and has the required equipment to provide a diverse range of services to a variety of sectors, including general cargo, fresh produce, containers and fishing, as well as the growing offshore oil and gas industry. The port also serves the rapidly growing local and international demand for bunkering and ship repairs. South Africa's (Western Cape and beyond) growing exports, particularly fresh fruit, perishables and frozen produce, are shipped to global destinations through the port (Planning Partners, 2021b).

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The port is at the centre of several vital sea routes and serves as an important deep-water port on these routes and is therefore of strategic and economic importance. It is also a busy container port, second in South Africa only to Durban, and handles the largest amount of fresh fruit amongst South African ports. Cape Town is strategically located to be a marine hub, linking the Americas and Europe with Asia and Australia. The port therefore also fulfils a significant role as a transhipment hub (i.e. cargo not destined for the Western Cape hinterland that is temporarily stored before being shipped onward to other ports) (Planning Partners, 2021b).

The port also has a comprehensive range of marine services, including towage (tugs with a maximum bollard pull of 41 t), pilotage, navigation, berthing and pollution control. Anchorage is available to the northeast and east of a pilot boarding station, with a depth of 20 - 25 m. Due to strong winds during winter months, there is no safe anchorage within Table Bay (Planning Partners, 2021b).

ii) Layout, Capacity and Operations

The port consists of the two main basins, namely the northern Ben Schoeman Dock and the southern Duncan Dock. The depth at the port entrance channel is -15.9 m chart datum and is -15.5 m at the 180 m wide entrance into Duncan Dock and -14 m at the entrance to Ben Schoeman Dock. The depth in the Duncan Dock varies between -9.9 m chart datum near the repair quay to -12.4 m at the tanker basin. Ben Schoeman Dock varies from -9 m to -13.9 m. Dredging is carried out regularly to maintain required depths alongside and within the harbour. Refer to *Figure 5.7.8* for the location of the various basins and facilities (Planning Partners, 2021b).

Facilities and infrastructure at the port include the container, multi-purpose and fresh produce terminals.

Cape Town has 17 berths, providing 3 851 m of berth length. The container terminal has four berths. The liquid bulk terminal is the second largest terminal in the port with two berths. The majority of the Duncan Dock consists of a multi-purpose terminal accommodating dry and breakbulk cargo types. The other terminals are made up of ship repair and fishing facilities and a dedicated passenger ship berth (Planning Partners, 2021b).

The Ben Schoeman Dock contains a container terminal with six berths. The Duncan Dock has a dedicated cold store for fish products with

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docking space for up to six vessels. It also handles fruit, steel, paper, maize, wheat, rice, timber, coal, scrap metal and other general cargo, as well as passenger ships (Planning Partners, 2021b).



Figure 5.7.8

Port of Cape Town: Layout and Facilities

The Port of Cape Town has three ship repair facilities, of which the Sturrock Dry Dock is the largest dry dock in South Africa. Berth A is also used to repair oil rigs (Planning Partners, 2021b).

Cargo handled in the port are clustered into four types, namely containers, liquid bulk, dry bulk and breakbulk (Planning Partners, 2021b).

General cargo is handled at the six berths of the multi-purpose and combi terminals, which handle a wide range of goods (60 commodities). *Table 5.7.9* provides the handling capacity of the port, to be read with *Figure 5.7.8* (Planning Partners, 2021b).

The port has 61 bunkering points supplying marine fuel oil, gas oil and blended fuels at most berths. Bunker fuels are delivered by pipeline and gas oil is delivered by barge. Diesel oil is not available at the port (Planning Partners, 2021b).

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Joint Bunkering Services (JBS) is a joint venture between BP SA, Caltex Oil, Shell SA and Engen Petroleum. Consumers can choose which oil company they want to supply their fuel. More than 80 per cent of fuel oil supplied by JBS comes from Caltex Oil. Caltex's 110 000 barrels per day refinery at Milnerton is connected with most parts of the Port of Cape Town via an 11 km long pipeline and a barge (Planning Partners, 2021b).

The Burgan Cape Terminal along the Eastern Mole, which started operations in 2016, contains 12 tanks, with a capacity of 122 000 ℓ of fuel. The fuel includes diesel, petrol, biodiesel and ethanol. Fuel stored at the facility is received from ships and from road tankers. The facility consists of two separate operating areas; a northwestern section containing the storage tanks and a southeastern section containing the road tanker gantry. The FFS Refiners's bulk heavy oil storage facility is located between these two areas. Note that the estimated blast zone of this facility is contained within the port's limits (Planning Partners, 2021b).

TNPA's cartage department provides services to the container, combi and breakbulk terminals, using specialised equipment for containers, haulers with a capacity of up to 30 t and customised equipment for the transport of breakbulk and conventional cargo such as timber, paper and steel products. The normal area of operation is a 25 km radius from the port, but breakbulk cartage offers services at a wider range of up to 50 to 60 km. The establishment of a satellite depot at Belcon (Bellville) will increase this service. Note that the Belcon depot is still in the planning phase and the expected operational date is not known (Planning Partners, 2021b).

Container volumes are forecasted to grow to 1.1 million TEUs (twenty-foot equivalent units) by 2024 and to approximately 2.0 million TEUs by 2046. Dry bulk volumes are forecasted to steadily grow to 1.6 million t over a 30-year period. Breakbulk volumes are forecasted to decrease over the 30-year forecast period to 190 000 t/year. Liquid bulk volumes are expected to increase to 2.6 million kl/year at the end of a 30-year forecast period (Planning Partners, 2021b).

In order to serve the West African offshore oil and gas industry, as well as South Africa's Sable oil field, specialist facilities are provided and include lay-by repair berths and a dedicated deep-water facility to accommodate large structures (Planning Partners, 2021b).

Since the previous DSSR, the 2013 container terminal expansion project increased container capacity from 750 000 to 1 million TEUs per annum. The project included the deepening of the container berth (Ben

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Schoeman) to -15.5 m, allowing large vessels carrying up to 8 000 TEUs. The four container quays were refurbished and are equipped with the latest ship-to-ship handling equipment. In addition, more land has been made available for empty containers, doubling storage capacity (Planning Partners, 2021b).

The yacht basin for pleasure craft serves as a base for the Royal Cape Yacht Club. The National Sea Rescue Institute (NSRI) also has a base within the harbour (Planning Partners, 2021b).

Table 5.7.10 provides the vessel limitations of each basin within the port.

Table 5.7.9
Port of Cape Town: Capacity

Cargo Type	Terminal	Berths	Usable Berths	Volume (2017/2018)	Terminal Capacity	Berth Length	Berth Draught
Containers	Cape Town Container Terminal (CTCT)	601/602, 603/604	3	892 851 TEUs	1 000 000 TEU/y	1 151 m	14.2 m
Dry bulk	Cape Town Agri-Roro Terminal (CTAR)	B/C, D, F, G, H, J	2	1 103 769 t	2 100 000 t/y	569 m	12.2 m
Breakbulk	CTAR & Fresh Produce Terminal (FPT)	B/C, D, F, G, H, J	6	383 443 t	1 500 000 t/y	1 368 m	9.1 m
Liquid bulk	Asron (previous Chevron), Grindrod, etc.	TB1, TB2 & Eastern Mole	3	1 973 327 kl	3 400 000 l;/y	489 m	13.7 m

Table 5.7.10
Port of Cape Town: Vessel Limitations

Vessel	Maximum Length (m)	Maximum Draft (m)
Passenger vessel	274.3	12.0
Dry cargo vessel	225.6	9.1
Container vessel	173.0	10.0
Tanker	203.0	13.1

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iii) Cargo Handled

The volumes of cargo and containers handled at the port during the January to December 2018 period is summarised in <u>Table 5.7.11</u> and <u>Table 5.7.12</u>. The information is categorised into dry bulk, liquid bulk and breakbulk volumes handled, as well as containers handled. Containers are measured in TEUs in line with international standards.

Volumes are influenced by a number of factors, apart from the capacity of the port, namely (i) bulk cargo is influenced by petroleum prices, (ii) agricultural products (also transported as bulk cargo) are influenced by weather and international commodity prices, (iii) container volumes are dependent upon ship calls and volumes and (iv) the cost of sea freight. It is therefore difficult to predict clear trends. The figures of cargo handled during 2018 are only slightly more than the figures recorded in 2010 (an increase of 4.6 per cent), whereas 26.8 per cent more containers were handled in 2018 than in 2010 (Eskom, 2015) (Planning Partners, 2021b). The latter is due to the container terminal expansion that was undertaken during this period.

Table 5.7.11
Port of Cape Town: Summary of Cargo Handled (January to December 2018)

Cargo	Dry Bulk Cargo	Liquid Bulk Cargo	Breakbulk Cargo	Total Cargo
	(t)	(t)	(t)	(t)
Bulk landed:				
Imports	806 826	917 357	317 768	2 041 951
Coastwise	0	331 530	40	331 570
Total bulk landed	806 826	1 248 887	317 809	2 373 522
Bulk shipped:				
Exports	241 263	1 088 681	129 890	1 459 834
Coastwise	(-)37 922	(+)290 555	(+)56	252 689
Total bulk shipped	203 340	1 379 237	129 946	1 712 523
Transhipment cargo:	6 769	101 556	53 586	161 911
Total handled:	610 255	2 729 680	501 340	3 841 275

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Table 5.7.12
Port of Cape Town: Summary of Containers Handled
(January to December 2018)

	Containers Invoiced (TEUs)			
	Full	Empty	Total	
Landed:				
Deapsea	254 102	92 729	346 831	
Coastwise	3 013	28 869	31 882	
Transhipped	50 996	14 181	65 177	
Total landed	308 111	135 779	443 890	
Shipped:		•		
Deapsea	274 866	105 859	380 725	
Coastwise	571	6 076	6 647	
Transhipped	50 986	15 899	66 885	
Total shipped	326 423	127 834	454 257	
Total	634 534	263 613	898 147	

<u>Table 5.7.13</u> lists the top commodities handled by the Port of Cape Town in 2018. The table illustrates that the port handled large volumes of agricultural-related imports, as well as petroleum imports and exports (Planning Partners, 2021b).

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Table 5.7.13

Port of Cape Town: Top Commodities Handled (2018)

Commodity	Tonnage
Dry bulk imports:	
Maize	50 885
Grain	39 828
Wheat	196 719
Agricultural products	196 015
Fertilisers	239 543
Potash	43 632
Liquid bulk handled Imports:	
Animal and vegetable oils/fats	52 797
Molasses	4 353
Sunflower seed oil	34 341
Petroleum:	
Deepsea imports	895 863
Deepsea exports	279 205
Coastwise landed	371 556
Coastwise shipped	332 503
Breakbulk imports:	
Fish	27 485
Cement	214 867
Steel	27 094
Breakbulk exports:	
Fish	3 186
Citrus fruit	42 544
Deciduous fruit	1 795
Cement	1 385
Steel	73 998

iv) Vessel Movements

<u>Table 5.7.14</u> shows the overall port activity in terms of ship arrivals for 2018 (TNPA, 2020). The average number of vessel movements for a typical calendar year is approximately 1 600 vessels (approximately four per day). The vessel type with the largest number of calls at the port during 2018 were the Small/Handysize range (dry cargo and at least

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60 000 t), which recorded 1 050 port calls. The container terminal typically receives approximately 36 per cent of total vessel calls, with the majority being Panamax/Post Panamax (solid cargo ships and oil tankers with a capacity of 50 000 to 80 000 t) (Planning Partners, 2021b).

It can be noted that there was a marked decrease of 41.2 per cent in vessel movements between 2010 and 2018, even though the volume of cargo handled had a slight increase (Eskom, 2015), (TNPA, 2020). Container vessels represent the highest frequency in 2018, with 40.6 per cent of all vessels arriving at the port being container vessels. Foreign fishing vessels represented 11.9 per cent of the vessels and bulk cargo vessels 9.4 per cent of the total vessels in 2018.

It is noted that, given the competitive advantage that the Port of Cape Town has, being at the centre of several vital sea routes, and the proximity of the nearby oil refineries in Milnerton, the port is actively attracting vessels to Cape Town for the sole purpose of replenishing bunkers.

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Table 5.7.14
Port of Cape Town: Vessel Statistics (2018)

Number of		Vessel type											
Vessels Calling per Month	Containers	Bulkers	Tankers	General Cargo	Passenger	Vehicles	Ro-Ro	Other	Coasters	Foreign Fishing	SA Fishing	Misc- ellaneous	Total
January	53	12	9	7	10	0	0	0	2	21	8	8	130
February	50	14	9	8	6	0	0	1	2	4	8	10	112
March	46	6	8	12	4	0	0	0	1	6	6	6	95
April	46	11	18	10	4	0	0	1	3	24	2	5	124
May	49	14	12	7	0	0	0	0	2	25	7	10	126
June	51	14	10	6	0	0	0	0	1	14	2	8	106
July	60	16	11	7	0	0	0	0	2	17	6	6	125
August	60	12	11	7	0	0	0	2	3	13	16	6	130
September	59	14	11	9	0	0	0	1	2	24	22	17	159
October	53	15	12	11	2	0	0	1	3	13	19	22	151
November	52	11	6	14	2	0	0	0	2	15	14	24	140
December	73	12	17	19	5	0	0	0	3	15	27	35	206
TOTAL	652	151	134	117	33	0	0	6	26	191	137	157	1 604

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b) Port of Saldanha

i) Overview

The Port of Saldanha is located outside the site region (84.3 km north-northwest, H10 in <u>Drawing 5.7.5</u>), but due to its regional importance, it is discussed here. The Port of Saldanha is the deepest and largest natural port in South Africa. The port is managed by TNPA and was constructed primarily for the export of iron ore and operated as a bulk export port until 1980. A general cargo quay was constructed during 1980 to facilitate the export of breakbulk cargo. The port operates 365 days per year and 24 hours per day (Planning Partners, 2021b).

ii) Layout, Capacity and Operations

The total area occupied by the port (land and water areas) is 19 300 ha. The port was developed into a modern harbour when it became necessary to facilitate the export of iron ore from mines in the Northern Cape. This required the construction of a railway line to the mines at Sishen in the Northern Cape and the construction of a deep-water jetty in the Port of Saldanha to accommodate the Capesize ore carriers. In addition, the Saldanha Steel Mill near the port also has been commissioned for the export of steel manufactured from more than 1 million tonnes of iron ore, which is railed direct to the mill. It is however noted that the Saldanha Steel mill was closed at the beginning of 2020. Plans to re-open the facility are currently unknown. The guay structure consists of a finger-type design, jutting some 3 km into the bay. A breakwater between Hoedjiespunt and Marcus Island protects vessels from the prevailing swell conditions along the West Coast. Pilotage is compulsory and tugs are required for ship working (Planning Partners, 2021b).

A 990 m long jetty contains two iron ore berths linked to the shore along a 3.1 km long breakwater. The 874 m long multi-purpose quay handles breakbulk cargo, as well as a 365 m tanker berth at the end of the ore jetty with a permitted draught of -21.3 m (Planning Partners, 2021b).

The iron ore jetty is 630 m long, with a draught of -21.3 m. The multi-purpose quays (berths 201 to 203) have a total length of 874 m with a draught between -12 m and -13.4 m. The port can accommodate up to Panamax (solid cargo ships and oil tankers with a capacity of 50 000 to 80 000 t) and Cape-sized (too large to pass through the Suez or Panama canals with a capacity of 80 000 to 175 000 t) vessels (Planning Partners,

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2021b).

The Port of Saldanha accepts vessels with a draught of up to -20.5 m, although the harbour master conditionally accepts vessels with a draught of -21.5 m. The port entrance channel is dredged to a depth of -23 m chart datum and -23.7 m chart datum at the entrance channel. The entrance channel has a minimum width of 400 m. The turning basin seaward of the jetty has a diameter of 580 m and a depth of -23.2 m chart datum. The draught at the multi-purpose quay is -12 m for berth 201 and -13.4 m for berths 202 and 203 (Planning Partners, 2021b).

No ex-pipeline bunkering service is available on the jetty. Heavy fuel oil is also not available at this port. Gas and diesel are available at the ore berths and are supplied from drums or road tankers that are based in the CMA. Liquid bulk crude oil is handled by pipeline, with the storage tanks being about 8 km away outside the port limits. The port has a comprehensive range of marine services, including towage, pilotage, navigation, berthing and pollution control. A full diving service is available for ship inspection and other services, but ship repair is limited mainly to the fishing industry. Large ship repairs are carried out by services provided from the CMA (Planning Partners, 2021b).

A large section of the port is utilised as a fishing harbour and is the largest (in terms of value of catch landed) of the proclaimed South African fishing harbours (Planning Partners, 2021b).

The port also houses the SAS Saldanha Naval Station, as well as a NSRI rescue station. There are small craft harbours located at the Port of Saldanha and Mykonos Yacht Harbour and Yachtports SA (Planning Partners, 2021b).

iii) Cargo Handled

Cargo handled at the multi-purpose terminal includes various mineral exports, steel coils and iron. Imports include anthracite, coking coal and steel pellets (Planning Partners, 2021b).

Fishing operations at Saldanha are based at the Sea Harvest Quay and Government Jetty. The Sea Harvest Company receives catches for freezing, storage and export of marine products (Planning Partners, 2021b).

<u>Table 5.7.15</u> summarises the cargo handled at the Port of Saldanha. Note that there was a 17.9 per cent increase in cargo handled by the port

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in 2018 than what was handled in 2010. As illustrated on <u>Table 5.7.15</u> and <u>Table 5.7.16</u>, the Port of Saldanha handles limited numbers of containerised cargo (Planning Partners, 2021b).

Table 5.7.15
Port of Saldanha: Summary of Cargo Handled (January to December 2018)

Cargo	Dry Bulk Cargo	Liquid Bulk Cargo	Breakbulk Cargo	Total Cargo				
	(t)	(t)	(t)	(t)				
Bulk landed:								
Imports	974 172	4 211 297	38 125	5 223 594				
Coastwise	178 191	0	23 616	201 807				
Total bulk landed	1 152 363	4 211 297	61 741	5 425 401				
Bulk shipped:								
Exports	48 628 327	8 750 476	620 466	57 999 269				
Coastwise	(-)536 133	536 133	3	3				
Total bulk shipped	48 092 193	9 286 610	620 469	57 999 272				
Transhipment cargo:	(-)1 010	0	0	(-)1 010				
Total handled:	49 243 547	13 497 906	682 210	63 423 663				

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Table 5.7.16 Port of Saldanha: Summary of Containers Handled (January to December 2018)

	Containers Invoiced (TEUs)				
	Full	Empty	Total		
Landed:	·				
Deapsea	4	0	4		
Coastwise	0	0	0		
Transhipped	0	0	0		
Total landed	4	0	4		
Shipped:					
Deapsea	0	0	0		
Coastwise	0	0	0		
Transhipped	0	0	0		
Total shipped	0	0	0		
Total	4	0	4		

iv) Vessel Movements

<u>Table 5.7.17</u> presents the number of vessels handled by the port in 2018. The port is predominantly used by bulkers and general cargo vessels, which represented 76 per cent of the total vessels arriving at the port during 2018 (Planning Partners, 2021b).

Table 5.7.17
Port of Saldanha: Vessel Statistics (2018)

Vessel type	Number
Containers	0
Bulkers	329
Tankers	21
General cargo	73
Passenger	0
Vehicles	0
Ro-Ro	0
Coasters	0

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Vessel type	Number
Foreign fishing	1
SA Fishing	3
Miscellaneous	6
Total	433

5.7.8.2 Smaller Harbours and Small Craft Launching Facilities

There are several smaller harbours and small craft launching facilities for public and commercial fisheries use in the site region, as is illustrated in **Drawing 5.7.5**.

Important smaller harbours in the site region include the following:

a) Murrays Bay Harbour (H1)

The harbour at Robben Island is known as the Murrays Bay Harbour (14.4 km south-southwest). It is the only maritime point of access to the island.

Managed by the Department of Arts and Culture, a significant focus is on tourism, with passenger ferries operating daily from the Victoria and Alfred Waterfront.

The harbour has two breakwaters that safeguard the harbour against large swells (Planning Partners, 2021b).

b) Granger Bay Harbour (H2)

Granger Bay Harbour (24.8 km south), next to the Victoria Basin, falls under the jurisdiction of the Port of Cape Town Harbour Master. It is utilised exclusively for recreational purposes and the Granger Bay Boat Owners Association is responsible for the internal management.

It makes provision for 90 moorings for sailing and motorised vessels. Services on each mooring consist of a water point, electricity, telephone and television connections. The entrance width of the harbour is 30 m. The basin is protected by a main breakwater and a secondary breakwater.

There are no public launching facilities at Granger Bay Harbour (Planning Partners, 2021b).

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c) Victoria and Alfred Basins (H3)

The Victoria and Alfred (V&A) Waterfront Company administers the quay-side berths in the V&A basins (25.3 km south), as well as the V&A Marina and the Roggebaai Canal. The TNPA, through the Port of Cape Town Harbour Master, manages the movement of all ships in the Victoria and Alfred basins through Port Control. However, the Waterfront Harbour Master still has full and final authority for any vessel within the Victoria Basin, the Alfred Basin, the V&A Marina and the Roggebaai Canal System, as well as the Oceana Power Boat Club slipway located in the western portion of the V&A Waterfront property.

Within this area, portions of quayside berths are leased to various companies that include fishing companies, the TNPA harbour tugs and private commercial charter boat operators. Quay-side berths are available for use by passenger vessels, cargo vessels under light repairs, foreign fishing fleets re-supplying their provisions, research vessels, visiting naval vessels on state-official occasions and foreign sailing ships. The TNPA has exclusive use of No. 1 Jetty for the berthing of the port tugs, launches and pilot boats. The Robben Island ferries departure point is based at the Clocktower precinct. Ships up to 198 m in length can be accommodated in the Victoria Basin, up to 70 m in length in the Alfred Basin, provided that the wind strength is below 35 knots for handling by the TNPA pilots.

Pleasure craft are accommodated at the V&A Marina (106 berths) or along canals. Berthing is provided for all recreational craft. All passenger ferries operating from the Waterfront are alerted by TNPA Port Control of any daily restrictions regarding any approaches to the existing KNPS site by sea. These commercial charter boats or other recreational users rarely approach the area except on the few occasions when whales may be sighted in these waters.

The Cape Town Disaster Risk Management has identified the risk of nuclear fallout on Robben Island as the safety range circles cover Robben Island. The Cape Town Disaster Risk Management Department has developed a plan, in conjunction with the V&A Waterfront and TNPA for the evacuation of the tourists should there be a nuclear incident (Planning Partners, 2021b).

d) Hout Bay Harbour (H5)

Hout Bay Harbour (42.4 km south) is one of 12 fishing harbours proclaimed in South Africa in terms of the Sea Fishery Act, 1988. As such,

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it is primarily a fishing harbour with facilities for the landing and processing of fish, although it is also important for tourism and recreation. The harbour has two components; the fishing section which provides mooring for numerous fishing boats and the Hout Bay Yacht Club with more than 100 berths. The harbour is protected by two breakwaters, with an entrance of approximately 77 m in width (Planning Partners, 2021b).

e) Kalk Bay Harbour (H6)

The Kalk Bay Harbour (50.3 km south) is a declared fishing harbour. The two basins within the harbour are protected by a breakwater and a quay. Two internal quays are available for the mooring of fishing vessels (Planning Partners, 2021b).

f) Simon's Town Harbour (H7)

The Simon's Town Harbour (57.0 km south), operated and managed by Armscor, is dominated by the SA Naval Base, which is the main naval facility in South Africa. The function of the Simon's Town Harbour is to provide a safe and secure harbour in terms of berthing and pilotage services for the SA Navy and visiting vessels to Simon's Town. There are also naval maintenance and repair sections located within the harbour.

The naval harbour is surrounded by stone and reinforced concrete quays and walls. It consists of various individual areas, including three turning and mooring basins.

The False Bay Yacht Club is situated to the west of Simon's Town and provides for 260 moorings for recreational vessels. There are plans to replace the existing breakwater (Planning Partners, 2021b).

g) Harbour Island (H8)

Harbour Island (65.9 km southeast) is located within a residential estate, but has a public launching facility. It has a breakwater to protect the basin against swells and contains more than 140 berths for smaller recreational vessels (Planning Partners, 2021b).

h) Gordon's Bay Harbour (H9)

The Gordon's Bay Harbour (67.1 km southeast) is a declared fishing harbour and covers an area of approximately 4 ha and is protected by the main and secondary breakwaters. The harbour has one public slipway and provides moorings at the main jetties for private vessels, as

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well as naval vessels at the naval jetties.

The harbour is controlled by the Department of Sea Fisheries, whilst the marinas are controlled by the Gordon's Bay Yacht Club. Gordon's Bay Harbour historically played an important function as a fishing harbour. However, the Gordon's Bay Harbour is currently primarily used by the yacht club, naval academy, a few fishing vessels, the ski boat launch and the NSRI. Gordon's Bay Harbour still operates as a West Coast Rock Lobster landing facility with approximately five boats operating from the harbour, although no processing takes place at the harbour. Tuna boats are also known to operate out of the harbour. The yacht club is the dominant user and use privately owned and maintained floating moorings (Planning Partners, 2021b).

i) Other Public Small Craft Launching Facilities

Other smaller public launching facilities are dispersed throughout the region and are listed in <u>Appendix A</u>. Some of these launching facilities are located within the abovementioned small harbours (Planning Partners, 2021b).

5.7.8.3 Shipping Lanes

South Africa is situated on one of the world's major shipping routes with large numbers of cargo vessels and oil tankers passing the Cape of Good Hope every day. Four sea traffic paths (N1 to N4) act as links between the open sea routes (T1 or T2). The shipping lanes or Vessel Traffic Separation schemes are shown in simplified form in *Drawing 5.7.5*. These shipping routes are standard and have not changed since 2005. No planned changes to the sea traffic paths are currently known (Planning Partners, 2021b).

Traffic flows of oil tankers in the site region take the following sea traffic paths (Planning Partners, 2021b):

- from off Cape Point to Cape Town Harbour (path N1 is used in winter);
- from off Cape Point to Cape Town Harbour (path N2 is used in summer);
- from off Cape Point in the direction of Cape Town Harbour, thereafter 30 km from the site towards the open sea in the direction west-northwest (path N3) to join sea traffic path T1 (route taken in

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winter) or T2 (route taken in summer);

 from off Cape Town Harbour to the open sea in the direction west-northwest (path N4) to join sea traffic path T1 (route taken in winter) or T2 (route taken in summer).

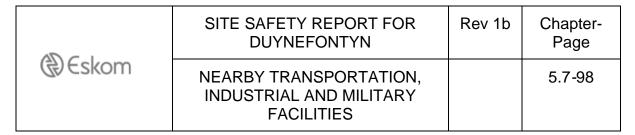
There are tanker traffic separation schemes in force in the site region, with westbound traffic having to keep a distance of 37 km (20 nmi) and eastbound traffic having to keep a distance of 25 nmi (46 km) off certain capes. Therefore, measuring from the site to these separation schemes, the minimum distance that traversing tankers, which do not call at the Port of Cape Town, can pass to the site is some 96 km (52 nmi) in summer (16 October to 15 March) and 87 km (47 nmi) in winter (16 March to 15 October). Dry Cargo vessels need to keep a minimum distance of 65 km (35 nmi) off the site. However, when tankers or dry cargo vessels are calling for replenishment off the Port of Cape Town, they may come within 46 km (25 nmi) of the site (Planning Partners, 2021b).

Even though boats, ships (including container ships) and other smaller vessels are permitted within 9.3 km (5 nmi) off the coast, for safety reasons these ships stay further away from the coast. Trawlers are not allowed within 30 km (16 nmi) of the coast.

Vessel movements passing the site for the period 2015 to 2020 are summarised in <u>Table 5.7.18</u> (VesselTracker / Wood MacKenzie, 2022). A total of 118 004 vessels (bulk carriers, general cargo, container and tanker ships) passed the site during 2020. The table shows a steady increase in vessel movements from 2015 to 2020. Smaller vessels, including fishing vessels, research vessels and service vessels, were not included in this table as they pose a lesser risk to the site.

Table 5.7.18
Vessel Movements Past the Site (2015 to 2020)

Vessel Type	2015	2016	2017	2018	2019	2020
Bulk carriers EW	11 400	9 477	8 502	7 232	15 930	15 612
Bulk carriers WE	10 781	9 167	8 095	6 747	15 791	14 916
General cargo EW	14 126	16 958	18 009	18 228	21 443	19 691
General cargo WE	13 561	16 621	17 569	17 752	20 863	18 972
Container vessels EW	7 933	7 437	6 813	5 447	10 975	9 942
Container vessels WE	8 049	7 554	6 806	5 598	10 888	9 620



Vessel Type	2015	2016	2017	2018	2019	2020
Tankers EW	8 780	9 633	10 611	9 046	16 041	14 674
Tankers WE	8 958	9 597	10 410	8 938	15 816	14 577
Total:	83 588	86 444	86 815	78 988	127 747	118 004

5.7.8.4 Future Marine Transportation

a) Port of Cape Town

Figure 5.7.9 illustrates the current layout of the Port of Cape Town.

Transnet has a short, medium and long-term strategy for the port. The National Ports Plan (2019) indicates that in the short-term, the industrial and vacant sites to the south of the port (Culemborg) will be incorporated into the port for the establishment of 160 ha of back of port commercial logistics operations, thereby increasing the port's total land capacity. Short-term planning also includes the container terminal expansion and a dedicated passenger ship terminal. Refer to <u>Figure 5.7.10</u> for the short-term planning layout (Planning Partners, 2021b).

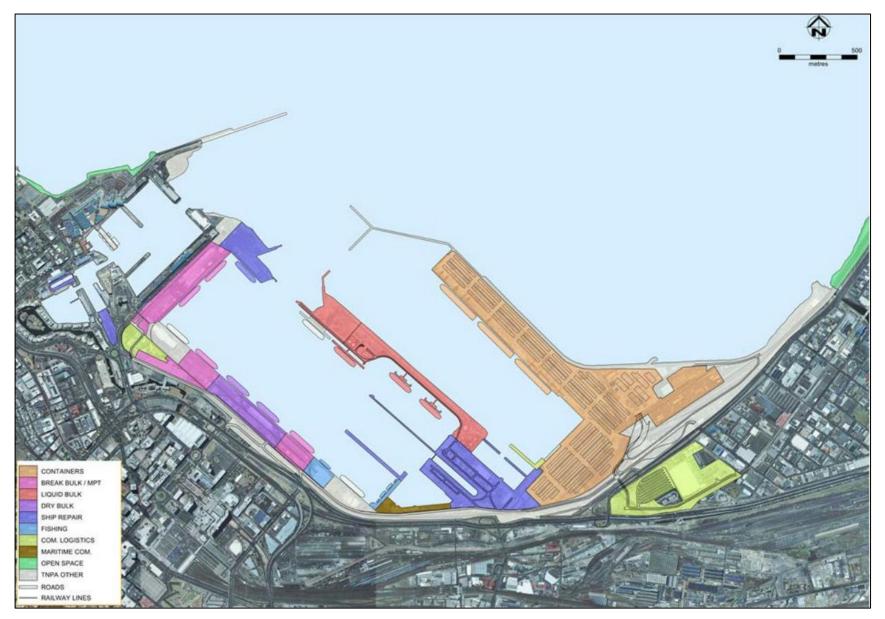


Figure 5.7.9
Port of Cape Town: Current Layout

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Medium-term developments include the expansion of the container terminal capacity even further, by a seaward reclamation to increase stacking capacity and the infilling of the cross berth to create one additional container berth. The Royal Cape Yacht Club basin will also be filled in to make way for the landside expansion of the ship repair precinct. Breakbulk activities will decrease in capacity as three existing berths will be converted to maritime commercial activities in association with the passenger ship terminal and waterfront facilities. Phase 2 of the terminal expansion project will increase the terminal's capacity to handle 1.4 million TEUs. The upgrades include the construction of 2 700 reefer points, totalling 3 752 points (Planning Partners, 2021b).

The long-term plan (refer to *Figure 5.7.11*) for the port indicates a new, fully developed northern basin, with a new breakwater and potential for additional container and liquid bulk facilities. This conceptually drawn seaward expansion is seen to be the only practical long-term vision for port expansion. If this outer basin development cannot take place, an alternative plan to handle Cape Town's long-term cargo demand may have to be directed to the Port of Saldanha (Planning Partners, 2021b).

Operation Phakisa (2014) aims to position South Africa to capture its share of the global market for ship repair, conversion and new-builds. It is designed to increase gross domestic product contribution and increase employment and skills development within the marine, transport and manufacturing sectors. For the Port of Cape Town, the following projects have been prioritised (Planning Partners, 2021b):

- refurbishment of Sturrock Drydock;
- refurbishment of Robinson Drydock;
- refurbishment of Synchrolift;
- replacement of water circulating pumps at Sturrock Drydock;
- replacement of ten cranes for ship repair;
- widening and lengthening of the repair quay (Planning Partners, 2021b).

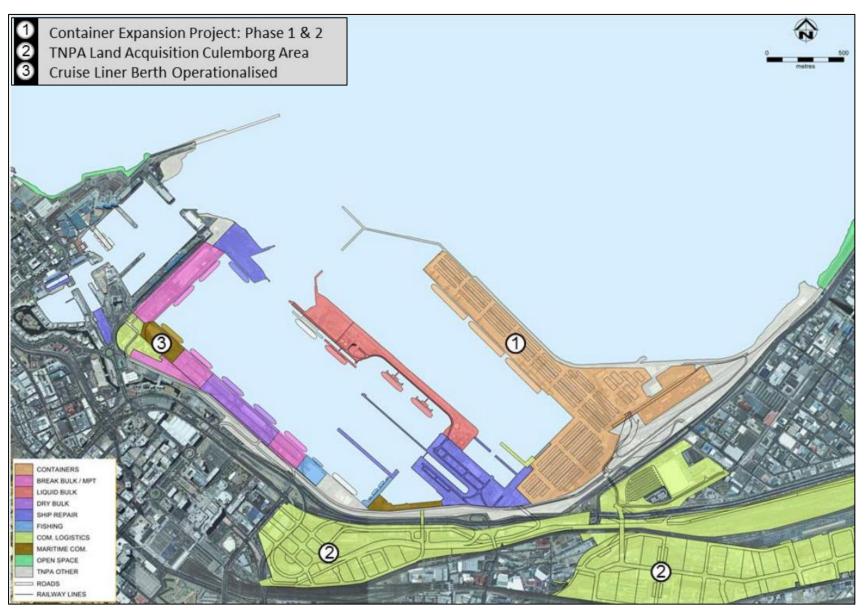


Figure 5.7.10
Port of Cape Town: Short-term Layout

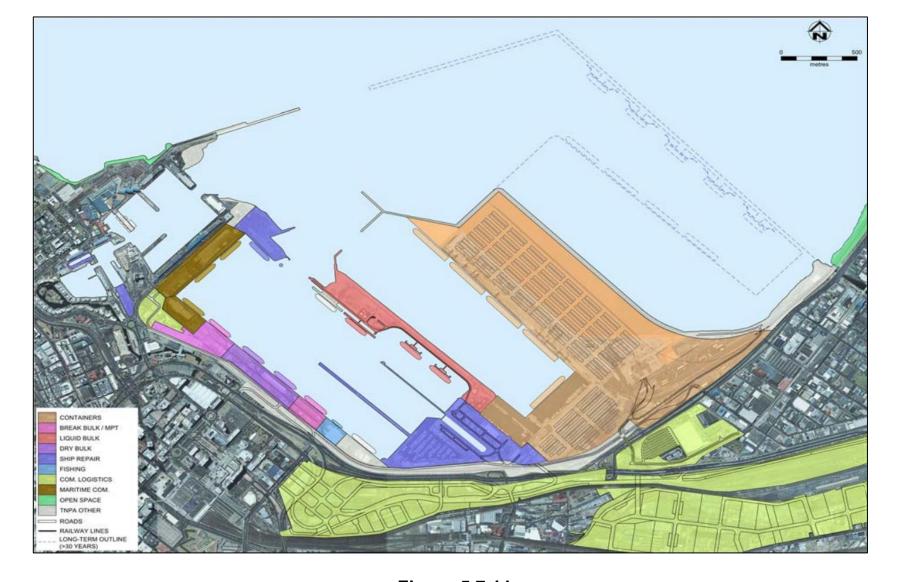


Figure 5.7.11
Port of Cape Town: Long-term Layout

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b) Port of Saldanha

Transnet is planning to expand the port services, specifically for ship and oil rig repairs. In addition, for South Africa to further increase its iron ore export, the Port of Saldanha Iron Ore Terminal needs to be expanded. This is to accommodate the increased frequency at which trains will deliver iron ore to the port and the increased frequency of ships docking at the port, as well as the need to ensure the efficient transfer of iron ore onto ships (Planning Partners, 2021b).

The current capacity at the Iron Ore Terminal is limited by the tippler capacity, available stock yard area and the number of stacker-reclaimers, shiploaders and berths. Transnet's proposal aims to address these limitations. The project entails the following key components:

- · construction of a fourth tippler unit;
- enlargement of the stock yard to 7 million t;
- provision of two additional stacker-reclaimers;
- construction of one additional berth;
- provision of two additional ship loaders at the new berth.

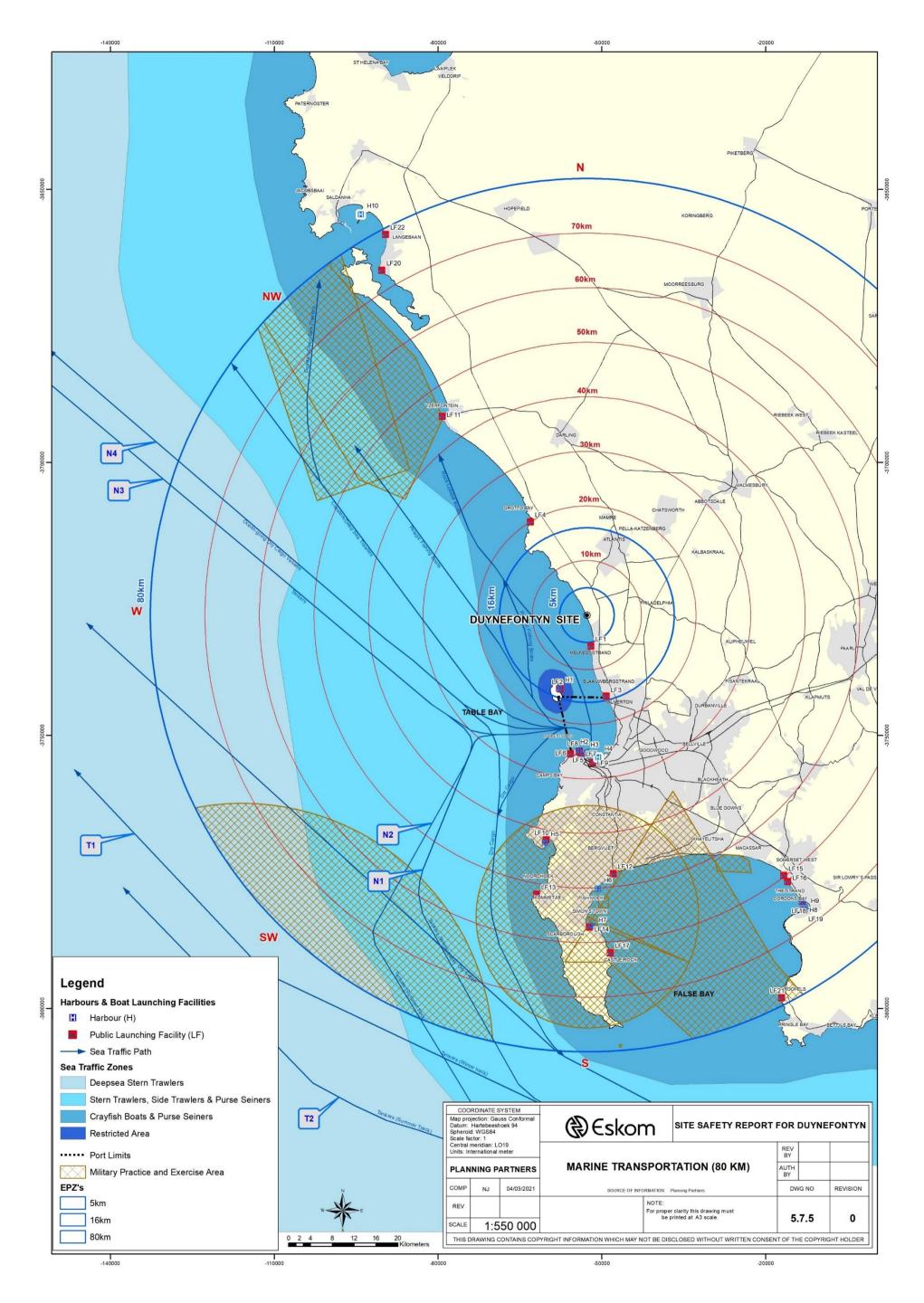
The proposed port expansion forms part of an overall project to increase the throughput capacity of the Sishen-Saldanha iron ore corridor from 60 to 88 million t/year (Planning Partners, 2021b).

c) Belcon Depot

The establishment of a satellite depot at Belcon (Bellville) will increase the Port of Cape Town's cartage service. Note that the Belcon depot is still in the planning phase and the expected commissioning date is not known (Planning Partners, 2021b).

d) Kraaifontein Hub

A new container rail hub is planned at Kraaifontein, which will store some of the containers handled by the Port of Cape Town (Planning Partners, 2020b).



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5.7.9 Industrial Development

Important industrial development nodes and activities in the site region were investigated and are described below. The description makes specific reference to the type, scale and significance of industrial activity that occurs or is concentrated in industrial nodes in the site region (see *Drawing 5.7.6*). Growth potential is demonstrated through current observed trends, new industrial nodes and planned expansions, taking into account the policies and proposals of the relevant Spatial Development Frameworks.

The site region investigation was focused on existing industrial nodes, the current rate of development, main industrial activities and employment rates. The analysis was particularly focused on demonstrating adequate understanding of the industrial development in the site region, the potential for industrial development expected to occur in the site vicinity over the lifetime of the nuclear installation(s) and the location of potential stationary hazards related to industrial activity in the site vicinity; at present and in the future.

5.7.9.1 Overview of the Western Cape Economy

The following contextualises the industrial sector within the Western Cape economy over the period 2008 to 2017. The Provincial Economic Review and Outlook (PERO) recorded a downturn of 0.8 per cent in the national economy in 2018. The Western Cape economy continued to expand over the last decade, but, on average, the growth rate more than halved to 2.0 per cent for the period of 2008 to 2017 (see <u>Figure 5.7.12</u>). The economy was forecasted to have a minimal increase of 0.2 per cent growth in 2018 (Planning Partners, 2020c).

According to the PERO, the finance, insurance, real estate and business services sector, as well as the transport, storage and communication services sector are expected to be the most prominent contributors to the provincial growth rate (Planning Partners, 2020c).

The private services sector, which makes up more than 60 per cent of the Western Cape economy, was the key driver of growth over the last ten years. The private services sector has grown by about 21 per cent from 2008 to 2017. Going forward, private services were forecasted to remain the key driver of economic growth in the Western Cape. Within private services, the business services sector was expected to provide the biggest boost to growth, followed by finance and insurance. The general government and construction sectors were however expected to

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have a lower overall growth than before (Planning Partners, 2020c).

Agriculture gross value added has fluctuated widely during the last five years, in a large part due to weather-related shocks. The forecasted contraction in 2018 caused by the protracted drought was expected to be the key drag on provincial growth in 2018 (Planning Partners, 2020c).

Overall, the Western Cape economy was forecasted to expand by an average annual rate of 1.6 per cent from 2019 to 2023, compared to the 1.3 per cent in the preceding five years. *Figure 5.7.12* illustrates the trend in Gross Domestic Product (GDP) contribution the Western Cape had in relation to the national figures. Agriculture and agri-processing were forecasted to be the fastest growing sectors as they recovered from an average annual contraction recorded from 2014 to 2018 (in 2018, a 7.9 per cent growth was experienced) (Planning Partners, 2020c).

The leading growth sector in the Western Cape during 2014 and 2018 was the finance, insurance, real estate and business services sector, with an increase of 2.4 per cent, followed by the transport, storage and communication sector (1.6 per cent). In contrast, output in the electricity, gas and water sector declined by 0.7 per cent (refer to *Figure 5.7.13*) (Western Cape Government, 2020).

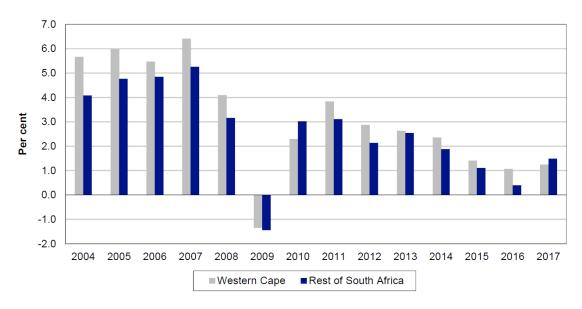


Figure 5.7.12
GDP Growth: Western Cape and South Africa (2004 to 2017)

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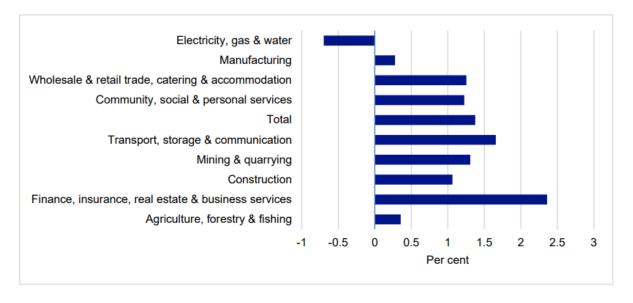


Figure 5.7.13
Western Cape Average Output Growth Rate per Sector (2014 to 2018)

The CMA, which represents the largest area in the site region, remained the largest contributor to economic output in the Western Cape at 72.2 per cent in 2017. As is illustrated in <u>Table 5.7.19</u>, as with the Western Cape, the tertiary sector within the Cape Metro represented the largest proportion of the economy. The agricultural sector contributed a further 18.6 per cent to the Cape Metro economy. It can be noted that the manufacturing sector experience a negative growth rate over the period 2007 to 2017 (Planning Partners, 2020c).

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Table 5.7.19
Economic Contribution of Sub areas in the Western Cape to Economic Growth (2007 to 2017)

•		e Metro 2007 - 2017		st Coast 2007 - 2017		Winelands 2007 - 2017		2007 - 2017		len Route 2007 - 2017		tral Karoo 2007 - 2017		stern Cape 2007 - 2017
Sectors	2017	(Avg)	2017	(Avg)	2017	(Avg)	2017	(Avg)	2017	(Avg)	2017	(Avg)	2017	(Avg)
Primary Sector	19.1	3.2	75.7	33.8	43.8	10.1	40.4	7.7	34.7	5.8	74.3	32.9	34.6	6.4
Agriculture, forestry and fishing	18.6	3.1	75.5	33.9	43.7	10.1	40.3	7.7	34.3	5.7	74.2	32.8	34.3	6.4
Mining	0.5	0.1	0.2	0.0	0.1	0.1	0.0	0.0	0.4	0.1	0.0	0.0	0.4	0.1
Secondary Sector	-6.0	7.6	6.0	13.4	-2.1	0.8	10.5	19.0	-4.6	10.7	3.5	7.5	-2.3	7.8
Manufacturing	-3.1	3.8	5.9	9.5	-6.7	-9.2	11.2	13.3	1.3	8.5	1.5	0.2	-1.3	3.3
Electricity, gas and water	1.4	-1.6	-0.2	-1.5	1.6	0.4	0.3	-0.6	0.3	-1.4	2.7	1.1	1.1	-1.3
Construction	-4.2	5.4	0.3	5.3	2.9	9.6	-1.1	6.3	-6.3	3.6	-0.6	6.2	-2.1	5.8
Tertiary Sector	86.9	89.3	18.3	52.8	58.4	89.1	49.1	73.3	69.9	83.5	22.2	59.7	67.7	85.8
Wholesale, retail, trade, catering and accommodation	-17.0	14.1	0.3	15.9	5.8	23.2	4.5	20.0	-6.7	14.1	-4.0	7.1	-7.6	15.6
Transport, storage and communication	12.1	10.1	0.9	0.5	9.2	10.0	10.1	11.7	11.9	11.1	-0.4	-2.2	9.8	9.6
Finance, insurance, real estate and business services	78.9	42.4	12.3	18.0	38.2	38.9	30.7	28.5	62.9	44.8	15.4	16.5	56.8	40.0
General Government	3.5	17.6	0.2	11.7	-2.1	9.3	-1.6	7.3	-4.9	8.4	5.0	31.0	8.0	15.0
Community, social and Personal services	9.4	5.0	4.6	6.7	7.3	7.7	5.5	5.8	6.9	5.1	6.1	7.3	7.8	5.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total contribution to WC growth	49.9	67.6	12.5	5.7	20.4	13.1	7.1	4.5	9.2	8.4	6.9	5.1	100.0	100.0

a) Agri-Industrial Sector

The site falls predominantly in the CMA, which contains some fruit and vegetable production. Large portions of the site region are ideal for the cultivation of export-grade fruit. The Stellenbosch and Drakenstein municipal areas also fall in the site region and are well-known wine production areas. The Swartland area, which falls partly in the site region, is a well-known wheat producing region. The site region therefore contains a number of wineries and fruit processing facilities (Planning Partners, 2020c), reported on in detail in **Section 5.5**.

The site vicinity is characterised by dairy farming, chicken and egg production and wheat cultivation and contains six chicken broilers and egg hatcheries and two dairies (Planning Partners, 2020d), reported on in detail in **Section 5.5**.

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b) Manufacturing Sector

Manufacturing in the site region is dominated by the food and beverage processing sector and the clothing and textiles sector. Other significant sectors include the petrochemical and plastics industry, electronics, furniture and the printing and publishing sector (Planning Partners, 2020c).

Available data show that 178 510 people were employed in the manufacturing industry in the CMA in 2018 (Western Cape Government, 2020).

5.7.9.2 Industrial Areas

<u>Drawing 5.7.6</u> indicates the industrial areas in the site region. Within the CMA industrial areas, the wholesale and retail trade, repair of motor vehicles and motorcycles sector represents the dominant sector (35 per cent of the total businesses within these industrial areas in 2017/2018). Manufacturing was the second largest sector and represented 28 per cent of the total businesses. In 2017/2018, 459 land parcels were recorded as vacant within all industrial areas. The PERO recorded that approximately 320 000 people were employed within the manufacturing industry in 2019 (Planning Partners, 2020c).

The following subsections provide more detail on each of the industrial nodes within the site region.

a) Atlantis Industrial Area

The industrial activities that are nearest to the site are concentrated in the Atlantis industrial area (9 km north-northeast). Atlantis was initially developed under the government's policy of industrial decentralisation. Due to shifts in planning policy, the full 'master plan' for the town was never realised. The effects of this planning policy shift are evident in the large undeveloped tracts of serviced, publicly-owned residential and industrial land within Atlantis. The presence of these large undeveloped areas creates the opportunity for new development within Atlantis.

Industrially zoned land in Atlantis measures approximately 955 ha in extent and contains 188 land parcels. There are 7 major divisions of economic activity, with the manufacturing sector occupying 88 land parcels, amounting to 40 per cent of the total land parcels. Of the 188 land parcels, approximately 160 contain businesses, while the remaining 28 land parcels are occupied by buildings that do not host

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businesses; indicating room for extensive growth in the area.

In 2017, 34 erven and 18 buildings were recorded as vacant. The Atlantis industrial area recorded the highest percentage of vacant properties of all the industrial areas within CMA.

Manufacturing industries dominate the area, predominantly metal products, rubber, plastic, textiles and machinery. Other activities include wholesale and retail trade, transportation and administrative services.

The most recent employment figures are 2015 data, as obtained from the City of Cape Town. They showed that 26 517 people were working within the Atlantis industrial area in 2015. The City of Cape Town has confirmed that the 2015 industrial employment data are the latest and ideal data set currently available.

The industrial area is in the process of acquiring Special Economic Zone (SEZ) status and should this status be granted, business and trade laws within its boundaries may differ from the rest of the country with the aim of attracting increasing trade, investment and job creation. The specific focus of the Atlantis SEZ will be the attraction of job creating investment in green technology and renewable energy manufacturing. The Cape Town Municipal SDF (2018) also supports industrial development within the Atlantis industrial area. It can therefore be expected that industrial development will occur in this area, specifically once the SEZ status is declared (Planning Partners, 2020c).

b) Doornbach/Du Noon Industrial Areas

The Doornbach/Du Noon industrial area (18 km south-southeast) is located to the west of Potsdam Road, opposite Du Noon, with the Atlantis railway line forming the southern boundary. The industrially zoned land is approximately 44 ha in extent. Recent developments to the east of the N7 Freeway include large warehouses and light industrial uses (Planning Partners, 2020c).

c) Killarney Gardens Industrial Area

The Killarney Gardens industrial area (19.8 km southeast) contained 500 land parcels and 728 businesses in 2017. In 2017, 63 land parcels and 1 building were recorded as vacant. The area is bounded by the N7 Freeway, Potsdam Road, the Astron (previously Chevron) oil refinery and the Atlantis railway line. Further industrial land use rights have been granted to the north of the railway line. The area is characterised by

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wholesale and retail trade (36 per cent of all businesses) and manufacturing (33 per cent of all businesses). The manufacturing sector is dominated by metal products, rubber, plastics and machinery.

The area employed 13 462 people in 2015 (Planning Partners, 2020c).

d) Montague Gardens/Marconi Beam Industrial Areas

Montague Gardens (20 km south-southeast) is the largest industrial area within the northwestern CMA (274 ha in extent) and has an ideal location, as it forms a primary link between Paardeneiland, Milnerton, Atlantis and Saldanha.

The industrial area contained 548 land parcels, with 1 100 businesses. Only four land parcels were vacant in 2017.

The area is a diversified and mixed-use area, including trade and specialised services, light industry and small businesses. In 2017, wholesale and retail trade accounted for 41 per cent of the activities, with manufacturing accounting for a further 27 per cent. Manufacturing activities were predominantly metal products, machinery, rubber, plastics and chemical products.

The oil depots of major oil refineries occupy a large portion of this area to the north. A major chemical plant is situated further north along Potsdam Road, on a 21 ha portion of land. Note that the Astron Refinery was closed temporarily in 2020 due to an explosion event. It is estimated that the refinery will be operational in mid-2022 (Astron, 2021).

Montague Gardens recorded the second highest employment number of all industrial areas in the CMA in 2015, employing a total of 37 216 people.

Marconi Beam is located southeast of the Montague Gardens industrial area, between Koeberg Road to the west, Bosmansdam Road to the south, and Montague Drive to the east. The area has a total of 240 ha industrially zoned land (Planning Partners, 2020c).

e) Paardeneiland/Harbour Industrial Areas

The Paardeneiland industrial area (26 km south) contains 770 land parcels. The area is fully developed and has no vacant land parcels. The area is favourable due to its close proximity to the CBD and good access routes. The area is categorised as a maritime industrial focused node,

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containing a variety of industrial uses, mostly related to the import/export activity at the Port of Cape Town. These activities include ship merchants, engineering works, industrial machinery, warehousing, cold storage facilities, manufacturing of chemicals and other related industries. Fuel storage and liquid gas storage tanks are located within the northern area. A strong retail (42 per cent of all businesses) and service industry component has emerged within the area due to good exposure to the N1 Freeway and Koeberg Road.

Harbour Industria contained 17 land parcels and 86 businesses in 2017 and is fully developed. Manufacturing is the main sector and includes repair services, petroleum products and transport-related activities (Planning Partners, 2020c).

f) Fisantekraal Industrial Area

Fisantekraal (28.8 km east-southeast) is a small industrial node to the northeast of Durbanville, which is characterised by the wholesale, retail trade, repair, manufacturing and construction sectors. In 2017, the area contained 79 land parcels and 80 businesses, of which a large proportion were still vacant (29 land parcels). Employment figures in this area were not available (Planning Partners, 2020c).

g) Maitland/Ndabeni Industrial Areas

The Maitland/Ndabeni area (29 km south-southeast) is approximately 173 ha in extent and contains 56 land parcels. The area is characterised by retail (motor vehicles and wholesale) and manufacturing (food, beverage, tobacco, wood and paper products).

A total of 12 262 employees worked at 196 businesses in this area in 2015.

Some larger industries that closed, including the municipal abattoir, have been replaced by light industrial activity and smaller businesses (Planning Partners, 2020c).

h) Epping Industrial Area

The greater Epping industrial area (31 km south-southeast) occupies a total of 413 ha of industrial land and is almost fully developed, containing 257 land parcels and 483 businesses in 2017. In 2017, 5 land parcels and 12 buildings were recorded as vacant. It is situated to the south of Thornton, east of Pinelands and north of Langa. It has good access to

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major roads and is also accessible by means of most modes of public transport, which makes it a sought-after location for business and the labour force. Wholesale, retail trade and repair services represent the main activities (35 per cent of all businesses), followed by manufacturing (26 per cent). Manufacturing is dominated by metal products, machinery, chemical products, food, furniture, printing, rubber and plastics.

Epping Industria 2 is a commercial area that is completely surrounded by the Epping industrial area and has a large manufacturing component.

The industrial area employed the highest number of employees of all industrial areas within the CMA in 2015 (51 002 employees).

The area is surrounded by residential areas, with no land available for future expansion (Planning Partners, 2020c).

i) Brackenfell/Brackengate/Parow/Kraaifontein Industrial Areas

Brackenfell Industria (33.8 km southeast) is one of the largest and oldest industrial areas in the northern suburbs of the CMA, situated at the intersection of Okavango and Old Paarl roads. Brackenfell Industria is located in close proximity to the N1 and R300 freeways, major access routes to the Cape Town CBD, Port of Cape Town and container depot. The area contained 586 land parcels and 995 business in 2017, of which 25 land parcels and 3 buildings were recorded as vacant.

A total of 18 615 people were employed in this area in 2015.

The wholesale, retail trade and repair sector was dominant (39 per cent of all businesses), followed by manufacturing (28 per cent). Manufacturing activities included metal products, machinery, repair services, rubber, plastics and furniture.

Brackengate (34 km southeast) is a strategically positioned industrial area next to the R300 Freeway and in close proximity to the N1 and N2 freeways. It is considered to be one of the industrial areas in the CMA which has the best infrastructure and is the most conveniently located, as it has easy access to CTIA and a railway station, which provides convenient transport for staff. The area contained 65 land parcels and 52 businesses in 2017, of which 15 land parcels and 2 buildings were recorded as vacant. The wholesale, retail trade and repair sector was dominant (33 per cent of all businesses), followed by manufacturing (21 per cent).

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Parow Industria (33.6 km southeast) contained 177 land parcels and 434 businesses in 2017, of which 3 land parcels were vacant. The wholesale, retail trade and repair sector was dominant (35 per cent of all businesses), followed by manufacturing (31 per cent). Manufacturing activities include metal products, chemical, rubber and plastics.

The Kraaifontein Industrial area is located alongside the N1 Freeway and is highly accessible. This relatively small industrial node focusses on motor vehicles and transport logistics. In 2017, the area contained 90 land parcels and 90 businesses, of which 11 land parcels and 3 buildings were vacant. These businesses employed 3 050 people in 2015 (Planning Partners, 2020c).

j) Airport Industrial Area

The Airport industrial area (35 km southeast) consist of 182 ha of developable land and contained 313 land parcels and 353 businesses in 2017. At this time, 33 land parcels and 5 buildings were recorded as vacant.

The transportation, storage and logistics sector is dominant, representing 32 per cent of all businesses. The wholesale, retail trade and repair sector and the manufacturing sectors were the second largest sectors (19 per cent each).

In 2015, a total of 13 381 people were employed within this area (Planning Partners, 2020c).

k) Sacks Circle/Stikland/Triangle Industrial Area

Sacks Circle (35 km southeast) is highly accessible from the R300, N1 and N2 freeways. In 2017, the area contained 86 land parcels and 150 businesses, of which 6 land parcels and 3 buildings were vacant. These businesses employed a total of 20 122 workers in 2015. Manufacturing (metal products, machinery, rubber and plastics) dominates the area, with 40 per cent of all businesses being within this sector.

Stikland Industria (34 km southeast) is also highly accessible from the R300, N1 and N2 freeways. The area is nearly fully developed, with 546 businesses being accommodated on 280 land parcels (2017). Only two land parcels were vacant in 2017. The wholesale, retail trade and repair sector was dominant (42 per cent of all businesses), followed by manufacturing (27 per cent), which includes activities such as metal

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products, machinery and repairs.

Triangle (33.4 km south-southeast) is nearly fully developed, with 229 businesses being accommodated on 148 land parcels (2017). Only two land parcels were vacant in 2017. Manufacturing dominates, including metal products and motor vehicles manufacturing activities. In 2015, it was recorded that 19 355 people were employed in this area (Planning Partners, 2020c).

I) Athlone Industrial Area

The Athlone industrial area (36 km south-southeast) consisted of 138 land parcels and 220 businesses in 2017, of which 4 land parcels and buildings were recorded as vacant. The wholesale, retail trade and repair sector was dominant (38 per cent of all businesses), followed by manufacturing (35 per cent), with food products being the dominant activity. A total of 6 102 workers were employed within this area in 2015 (Planning Partners, 2020c).

m) Kuilsriver/Blackheath/Saxonburg Park/Parow/Elsies River Industrial Areas

Kuilsriver Industria (38 km southeast) is located near the intersection of the M12 and R102 roads. The area contained 118 land parcels and 228 businesses in 2017, of which 16 land parcels and 1 building were recorded as vacant. The wholesale, retail trade and repair sector was dominant (49 per cent of all businesses), followed by manufacturing (17 per cent).

Blackheath Industria (42 km southeast) is an industrial hub situated in close proximity to the R300, N1 and N2 freeways. Blackheath Industria is considered one of the fastest growing industrial areas in the CMA, with good infrastructure and good potential for growth. The area contained 607 land parcels and 695 businesses in 2017, of which 70 land parcels and 7 buildings were recorded as vacant. The wholesale, retail trade and repair and manufacturing sectors both represented 32 per cent of all businesses. Manufacturing activities included metal products, rubber, plastic, wood and machinery.

In 2015, a total of 27 946 employees were employed in the Kuilsrivier and Blackheath industrial areas.

Parow Industria (33.5 km southeast) is a small industrial area, which is nearly fully developed (3 vacant land parcels in 2017) and contains

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177 land parcels and 434 businesses (2017). In 2015, these businesses employed a total of 17 410 employees. The area contains predominantly wholesale and retail trade, repairs and manufacturing activities.

The Elsies River industrial area (30 km southeast) is a small industrial area which contained 745 land parcels and 828 businesses in 2017, of which 19 land parcels and 15 buildings were recorded as vacant. The area contains predominantly wholesale and retail trade, repairs and manufacturing activities. The wholesale, retail trade and repair sector was dominant (38 per cent of all businesses), followed by manufacturing (26 per cent), which included activities such as metal products, rubber, plastics, textiles and chemical products. A total of 22 724 people were employed in this area in 2015 (Planning Partners, 2020c).

n) Ottery/Wetton/Retreat Industrial Area

Ottery/Wetton Industria (38 km south-southeast) is located in the southern CMA, east of the M5 Freeway. This provides easy access onto the M5 Freeway via Ottery Road, but also CTIA and Cape Town CBD. The area accommodated 249 businesses on 159 land parcels in 2017. Of these, only one land parcel and five buildings were recorded as vacant. In 2015, these businesses employed a total of 5 218 employees. The wholesale, retail trade and repair sector was dominant (35 per cent of all businesses), followed by manufacturing (26 per cent), which included activities such as metal products, furniture and printing.

The small, light industrial area of Retreat contained 181 land parcels and 282 business (2017). The area is nearly fully developed with only five land parcels being vacant in 2017. The area contains predominantly wholesale and retail trade, repairs and manufacturing activities. A total of 7 178 employees worked in this area in 2015 (Planning Partners, 2020c).

o) Philippi Industrial Area

Philippi Industria (38.3 km south-southeast) accommodated 170 businesses on 280 land parcels in 2017. Of these, 48 land parcels and 2 buildings were recorded as vacant. The area is characterised by wholesale and retail trade, repairs, transport and storage and manufacturing activities. The area employed 5 411 workers in 2015 (Planning Partners, 2020c).

p) Elfindale/Capricorn Park Industrial Area

The Elfindale industrial area (41.4 km south) is a small industrial area,

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which is fully developed with 83 land parcels and 273 businesses (2017). The area contains predominantly wholesale and retail trade, repairs and manufacturing activities. A total of 7 004 people were employed by these businesses (2015).

Capricorn Park (47 km south) is a rapidly growing, secure business park, containing 142 land parcels and 236 businesses (2017). Of these, 19 land parcels and 1 building were recorded as vacant. The area is characterised by wholesale and retail trade, repairs and manufacturing, especially metal products. It was recorded that 3 472 employees were working in this area in 2015 (Planning Partners, 2020c).

q) Strand/Somerset West Industrial Areas

Strand Industria (60 to 65 km southeast), otherwise known as Somerset West Industria, is a predominantly light and service-orientated industrial development node and is situated along the N2 Freeway, between Strand and Sir Lowry's Pass. The area is fully developed and contained 442 land parcels and 642 businesses in 2017. The wholesale, retail trade and repair sector was dominant (43 per cent of all businesses), followed by manufacturing (25 per cent). Manufacturing activities include metal products and furniture production.

Broadlands Industria (57 km southeast) is located just off the N2 intersection with Broadlands Road. The area contained 172 land parcels and 134 businesses in 2017, of which 45 land parcels were vacant. The manufacturing sector was the largest sector (31 per cent of all businesses), followed by the wholesale and retail trade, repair of motor vehicles and motorcycles sector (29 per cent). Metal products was the dominant activity (Planning Partners, 2020c).

r) Industrial Areas in the Swartland Municipal Area

Industrial development in the Swartland municipal area is concentrated in Malmesbury and Moorreesburg. Some of the smaller towns however also contain small industrial areas. The following industrial areas are located in the Swartland Municipal Area:

 Malmesbury/Abbotsdale (34 km northeast): The area contains approximately 170 ha of industrially zoned land, of which the bulk (approximately 148 ha) is still vacant. The industrial area is characterised by agricultural processing activities. It also accommodates light and heavy industrial uses.

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- Moorreesburg (63 km north-northeast): The area contains approximately 120.2 ha of industrially zoned land, of which the bulk (approximately 69 ha) is still vacant. The industrial area is characterised by agricultural processing activities, construction and engineering works.
- Darling (34 km north): The small industrial area has approximately 61 ha of industrially zoned land. The industrial area is only half developed. The area predominantly accommodates agri-processing facilities.
- Kalbaskraal (23.4 km east-northeast): The industrial area is located on a previously mined area and is still vacant. A total of approximately 71 ha of land is zoned for industrial uses.
- Riebeek West (55 km northeast) and Koringberg (76 km north-northeast) contain very limited industrially zoned land.

Note that no employment numbers were available from sources cited for these industrial areas (Planning Partners, 2020c).

s) Industrial Areas in the Stellenbosch Municipal Area

Industrial development in the Stellenbosch municipal area is focused in Plankenburg, Stellenbosch (47 km southeast) with approximately 96 ha of industrially zoned land and limited vacant land parcels. Activities are focused on agri-industrial uses and service-related industries. Klapmuts (43 km east-southeast) has limited industrially zoned land (approximately 10 ha) (Planning Partners, 2020c).

t) Industrial Areas in the Drakenstein Municipal Area

Paarl and Wellington's industrial areas (51 km east and south-southeast) contain light and service-related industries. A large printing house is also situated in the Paarl industrial area. Paarl and Wellington contain approximately 470 ha of industrially zoned land (Planning Partners, 2020c). Distell is planning a large facility within Klapmuts, to the north of the N1 Freeway within the Drakenstein Municipal Area. This could lead to associated industrial activities being attracted to this area (Drakenstein Municipality, 2019).

u) Industrial Areas in the Saldanha Bay Municipal Area

The Saldanha/Vredenburg industrial area is located outside of the site

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region, 85 to 95 km north-northwest, but due to its regional importance it is discussed here. The planned Saldanha Industrial Development Zone is expected to attract a significant number of industries (refer to **Subsection 5.7.9.5**).

The Port of Saldanha is primarily geared for iron-ore exporting, but vertical integration is growing with steel processing plants and related down-stream activities that have been established. The industrial areas contain both light and heavy industrial activities, with Saldanha Steel being the main component. It can however be noted that the Saldanha Steel mill was closed at the beginning of 2020. The re-opening of the facility is currently not known. Saldanha Bay has the capacity for further industrial development within the existing industrial areas and along the Port of Saldanha-Vredenburg Industrial Corridor.

The major sector is primarily manufacturing and it is recorded that this is the source of the majority of employment opportunities for the area. This can be ascribed to the development of Saldanha Steel and related downstream industries (Planning Partners, 2020c).

5.7.9.3 Coal Burning Installations

All coal burning installations in the site vicinity have been identified and are listed in <u>Table 5.7.20</u> and indicated in <u>Drawing 5.7.6</u>. The following six coal burning installations were identified in the site vicinity in 2017 (Planning Partners, 2020c):

- Apollo Bricks (C1, 7.6 km northeast), the nearest facility to the site and consumed 17 400 t of coal in 2017;
- Malmesbury Sterilisasie (C2, 7.8 km north-northeast) consumed 360 t of coal in 2017;
- Promeal (C3, 8 km north-northeast) consumed 78 t of coal in 2017;
- Atlantis Foundries (C4, 9.1 km north-northeast) consumed 4 800 t of coal in 2017;
- New Era Packaging (C5, 10 km north-northeast) consumed 900 t of coal in 2017;
- Rotex (C6, 10.3 km north-northeast) consumed 1 680 t of coal in 2017.

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Table 5.7.20 Coal Burning Installations in the Site Vicinity

Ammilan	Number of Installations						Annular					
Annular Distance					D	irectio	n					Total of
(km)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	NW	NNW	Coal Stored (t)
0 – 1	0	0	0	0	0	0	0	0	0	0	0	0
1 – 5	0	0	0	0	0	0	0	0	0	0	0	0
5 – 7.5	0	0	0	0	0	0	0	0	0	0	0	0
7.5 – 10	0	4	0	0	0	0	0	0	0	0	0	22 638
10 – 16	0	2	0	0	0	0	0	0	0	0	0	2 580
Segment Total	0	6	0	0	0	0	0	0	0	0	0	25 218

5.7.9.4 Mining Activities

The location and distribution of mining activities in the site vicinity were investigated to identify potential sources of external human-induced hazards (refer to **Drawing 5.7.6**). The investigation covered a broader area in order to ensure that there were no large or significant mining activities occurring in proximity to the site vicinity that might require transportation of hazardous materials close to the site.

The investigation showed that the only quarry situated in the site vicinity, located on the Ou Skip Road, east of Melkbosstrand (3.4 km south-southeast), is no longer operational.

Beyond the site vicinity, and up to the 25 km annulus, limited mining occurs. The Tygerberg region contains a number of quarries east of the N7 Freeway, of which four are presently active. Sand-mining activities also take place north of Dassenberg Drive, near Atlantis. Smaller brickworks are dispersed throughout the area between Bloubergstrand and Kalbaskraal (the nearest being 7.6 km northeast) and at Fisantekraal, north of Durbanville.

The general characteristics of the identified quarries and sand mines are that they are relatively small operations, directly related to the construction industry and occur in areas close to the existing towns where most new construction takes place. These operations could involve the use of commercial explosives. These operations tend to change location as sand and stone reserves at a particular locality are exhausted and new

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sources become known. The occurrence of these activities will therefore need to be monitored over the lifetime of the nuclear installation(s) (Planning Partners, 2020c).

5.7.9.5 Future Industrial Development

The Cape Town Municipal SDF (2018) provides a long-term vision of the desired spatial form and structure for the CMA. The SDF indicates that industrial development should be located within existing industrial areas where there is a considerable amount of vacant and under-utilised industrial land. Future industrial development should also be concentrated along identified metropolitan development corridors, which are highly accessible and have high levels of connectivity. The SDF further encourages industrial development within the identified IDZs (refer to *Drawing 5.7.6*).

Future industrial development in the site vicinity include the following (Planning Partners, 2020c):

- Atlantis (8 km north-northeast): Industrial infill, including noxious activities;
- Du Noon (13 km southeast): A new node, to the east of the railway line, that has started to develop in recent years. Additional industrial development will occur on vacant land parcels.
- Frankendale (13.4 km southeast): The Frankendale Risk Industrial Development, located to the west of the Vissershok landfill site, is a major proposed industrial development node. The development consists of 134 ha of risk industrial land and 80 ha of general industrial land. The development is proposed over the medium to long-term.
- Rivergate (15.8 km southeast): The development consists of 67 light industrial land portions and is currently being developed.

Beyond the site vicinity, future industrial development is directed at the following locations within the Cape Metropolitan area (Planning Partners, 2020c):

 Richmond Park (28 km east-southeast): A new light industrial node with a mix of service-related industrial, commercial and office uses, as well as additional development on vacant land parcels;

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- Joostenberg Vlakte (34 km east-southeast): Proposed industrial uses on undeveloped land to the southeast of Fisantekraal;
- Bloekombos (34 km southeast): Service-related and logistics industries are proposed on vacant land parcels;
- CTIA (35 km south-southeast): Additional industrial development (service-related industrial, warehousing and commercial development) on undeveloped land located on the eastern, as well as the southwestern airport extent and west of Symphony Way;
- Lansdowne Road (39 km east-southeast): A mix of general industrial and commercial uses;
- Cross Roads (39 km east-southeast): Light industries are proposed;
- Philippi (40 km south-southeast): General industrial development on undeveloped properties within the northern portion;
- Denel site (42 km south-southeast): A mix of commercial and light industrial uses;
- Elsies Rivier (45 km southeast): A mix of service-industrial, commercial and offices;
- Paardevlei (AECI property), Somerset West (55 km southeast): A mix of commercial, office and service-related industrial uses.

Future industrial development within the remainder of the site region is directed at the following locations (Planning Partners, 2020c):

- Moorreesburg (62 km north-northeast): Industrial development to occur through infill development within the existing industrial area and within the vacant, southern expansion area;
- Malmesbury (33 km northeast): Industrial development to occur along the N7 Freeway, to the west of the town towards Abbotsdale and will contain both light and heavy industrial uses;
- Paarl/Wellington (52 km east): Industrial development to occur through infill development within the existing industrial areas;
- Stellenbosch (42 km east-southeast): Industrial development is supported in Klapmuts with a focus on manufacturing, logistics and

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warehousing;

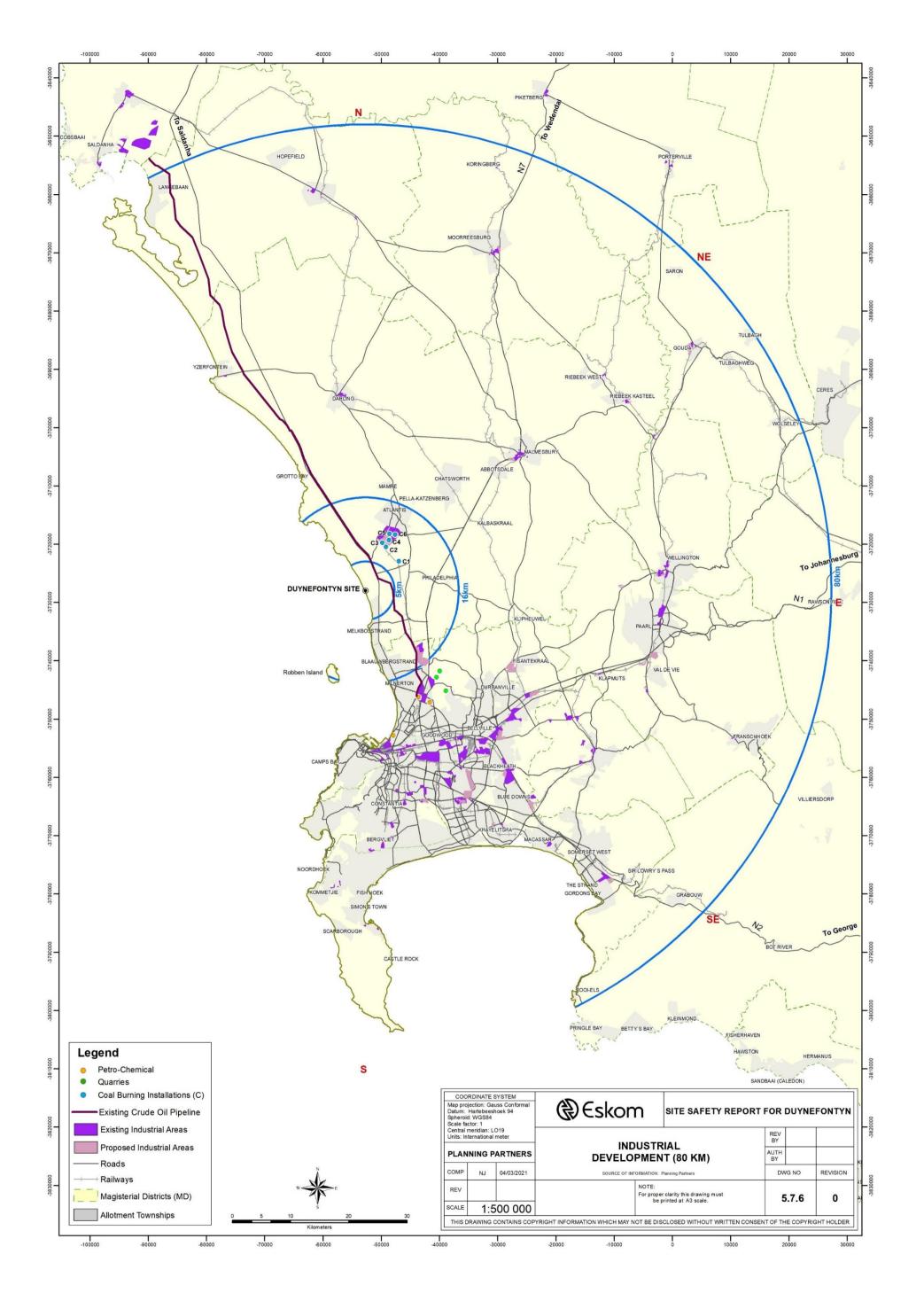
 Saldanha IDZ (SEZ): The Saldanha Bay Industrial Development Zone (SBIDZ) is the first Special Economic Zone (SEZ) to be located within a port and is the only sector-specific SEZ in South Africa catering specifically to the oil and gas, maritime fabrication and repair industries and related support services (Saldanha Bay Industrial Developmment Zone, 2021). The SBIDZ is located outside of the site region and consists of Saldanha, Hopefield, Langebaan, Vredenburg, Jacobsbaai, Paternoster and St. Helena Bay.

The SBIDZ is focused on providing services to the offshore oil and gas industry, which will include ship rating, steel work, piping, electrical work, rewinding motors and generators, heavy machine shop and mechanical engineering, engine fitting, rigging, salvage and diving work, drydock marine services and offshore supply services (Demacon, 2009).

The Industrial Development Zone (IDZ) Programme of the South African Government is designed to encourage international competitiveness in South Africa's manufacturing sector. An IDZ is a purpose-built, industrial estate linked to an international airport or port, which contains a controlled Customs Secured Area (exempt from duties, Value Added Tax and import duty on machinery and assets (Demacon, 2009).

It is expected that the SBIDZ will attract a significant amount of industrial activity to the Saldanha/Vredenburg area in the future, including heavy industrial and risk industrial activities. Even though the SBIDZ is located outside of the site region, its development should be monitored over the lifetime of the nuclear installation(s).

The existing and planned industrial development areas in the site region are illustrated in *Drawing 5.7.6*.



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5.7.10 Power Generation and Distribution

5.7.10.1 Nuclear Power Stations

The existing Koeberg Nuclear Power Station (KNPS), located on the site, is the only nuclear power plant on the African continent and started operating in 1984/1985. The KNPS's operational footprint is approximately 50 ha in extent, excluding basin, parking areas, etc., and is surrounded by the 3 000 ha Koeberg Nature Reserve (see *Drawing 5.7.7*). It consists of two 3-loop pressurized water reactors, each rated to approximately 2 775 MWth, that are constructed to the French Framatome CPY design. The KNPS has a design operating lifespan of 40 years. Each unit is designed to provide a net output of approximately 921 MWe, with an efficiency of about 33 per cent. The units supply 6 per cent of South Africa's electricity needs (refer to *Chapter 3*).

Nuclear fuel used to power the KNPS consists of pellets of enriched uranium dioxide, which are encased in 4 m long metal, fuel rods. Each KNPS reactor uses approximately 157 fuel rods over a period of approximately 1.5 years, after which time approximately a third of the fuel is replaced. KNPS generates approximately 32 t of spent fuel each year (Planning Partners, 2020e).

5.7.10.2 Gas Power Stations

The Ankerlig Open Cycle Gas Turbine (OCGT) power station, located in Atlantis (9.8 km north-northeast), started operating in 2007 and is diesel powered (see **Drawing 5.7.7**). The OCGT power station is used during peak periods and to supply electricity in emergency situations into the Eskom National Grid (Planning Partners, 2020e).

It consists of nine OCGT units, each with a nominal capacity of 147 to 148 MW, resulting in a total nominal capacity of 1 327 MW. Each OCGT unit consists of one gas turbine driving an electric generator. The station has an operational footprint of approximately 43 ha (Planning Partners, 2020e).

Some of the turbine units have been fitted with dual fuel burners in anticipation of conversion to closed cycle gas turbines (Planning Partners, 2020e).

There are no other gas power stations located in the site vicinity.

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5.7.10.3 Wind Power Installations

There are no wind farms located in the site vicinity.

The nearest wind farm to the site is the Darling wind farm (42.5 km north-northwest), which consists of four 1.3 MW wind turbines, producing 5.2 MW of electricity.

Note that the Eskom Klipheuwel wind energy demonstration facility was decommissioned in 2016 (Planning Partners, 2020e).

5.7.10.4 Overhead Transmission Lines and Electricity Sub-stations

Transmission lines in the site vicinity include seven 400kV transmission lines (3.4 km east), which connects the KNPS to the 400kV electricity grid. These seven lines run from the KNPS in an easterly direction up to the R27 Road, where they split into two routes. The northern routes (Atlantis-Koeberg 1 and Atlantis-Koeberg 2 routes) accommodate three 400kV transmission lines that run to the Ankerlig OCGT and Atlantis, and further northwest to Saldanha. The southern route (Koeberg-Stikland 1 route) accommodates four 400kV transmission lines that run in a southeasterly direction up to the N7 Freeway.

A 765kV transmission line runs from the Sterrekus sub-station, in a northeasterly direction to the Kappa sub-station located outside of the site region (Planning Partners, 2020e). This 765kV line was constructed post the previous DSSR.

A short section of two parallel running 132kV transmission lines run to the southeast of Atlantis (12.6 km east) towards the Ankerlig OCGT. Another 132kV transmission connects the KNPS to the 132kV electricity grid and runs in a southeasterly direction to the R27 Road, northeast of Duynefontein, where it continues parallel to the R27 Road (2.0 km east) up to Duynefontein and further in a south-southeasterly direction to a sub-station north of Parklands, from where it runs underground. This line serves as dedicated emergency power from the Acacia Gas Power Station to the KNPS. An additional 132kV transmission line runs parallel to the N7 Freeway towards Rivergate and further to the Acacia Gas Power Station (Planning Partners, 2020e).

5.7.10.5 Future Electricity Generation and Distribution Infrastructure

There are plans to construct a gas-to-power facility at the Atlantis industrial area on a 38.7 ha site (9.0 km north-northeast). Generation

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options could be either Open Cycle Gas Turbine, Combined Cycle Gas Turbine, Open Cycle Gas Engine, or Combined Cycle Gas Engine technology to generate electricity from natural gas. The proposed maximum generation capacity will be 1 500 MW, generated by four combustion turbine and generator sets. There are two options for overhead powerlines, namely (i) direct integration with the Ankerlig OCGT or (ii) to link with the Sterrekus sub-station. The status of this project is currently not known (Planning Partners, 2020e).

The Ankerlig-Sterrekus double circuit 400kV transmission line, which is currently (2020) in the planning phase, will provide for the required level of reliability to evacuate the total power in the Koeberg and Ankerlig generation pool (Planning Partners, 2020e).

One of the existing Koeberg-Acacia lines, which is currently operated at 132kV, needs to be upgraded and energised at 400kV, in order to achieve further grid reliability. This is expected to be commissioned when the Koeberg off-site supply is relocated to Ankerlig (2022) (Planning Partners, 2020e).

There is one wind farm planned to be located partly in the site vicinity, northwest of Atlantis. The wind farm will consist of 14 wind turbines with a total generating capacity of 52 MW (Planning Partners, 2020e).

Eskom intends to extend the operating life of the KNPS from 40 to 60 years, i.e. up to 2044. The entire project requires that certain upgrades and component replacements be done, e.g. steam generators, refuelling water storage tanks and reactor vessel heads. Eskom may also in future initiate a thermal power uprate project, which will increase energy output by a further 100 MWe per unit, which will increase the core thermal output on each unit from 2 775 to 3 055 MWth (refer to *Chapter 3*).

<u>Chapter 3</u> presents the details of the planned activities of the new nuclear installation(s) at the Duynefontyn site. Eskom has received environmental approval for the Nuclear-1 project, which envisages construction of a new nuclear installation(s), using Generation III design pressurised water reactor technology, with power generation capacity of up to 4 000 MWe. The Eskom application was guided by the Integrated Resource Plan (IRP) 2010, which called for up to 9.6 GWe new nuclear generating capacity to be installed. The revised IRP 2019 envisages no new nuclear generating capacity before 2030, and up to 2 500 MWe new nuclear generating capacity after 2030. In addition, the existing KNPS is planned to be modified to generate 2 108 MWe.

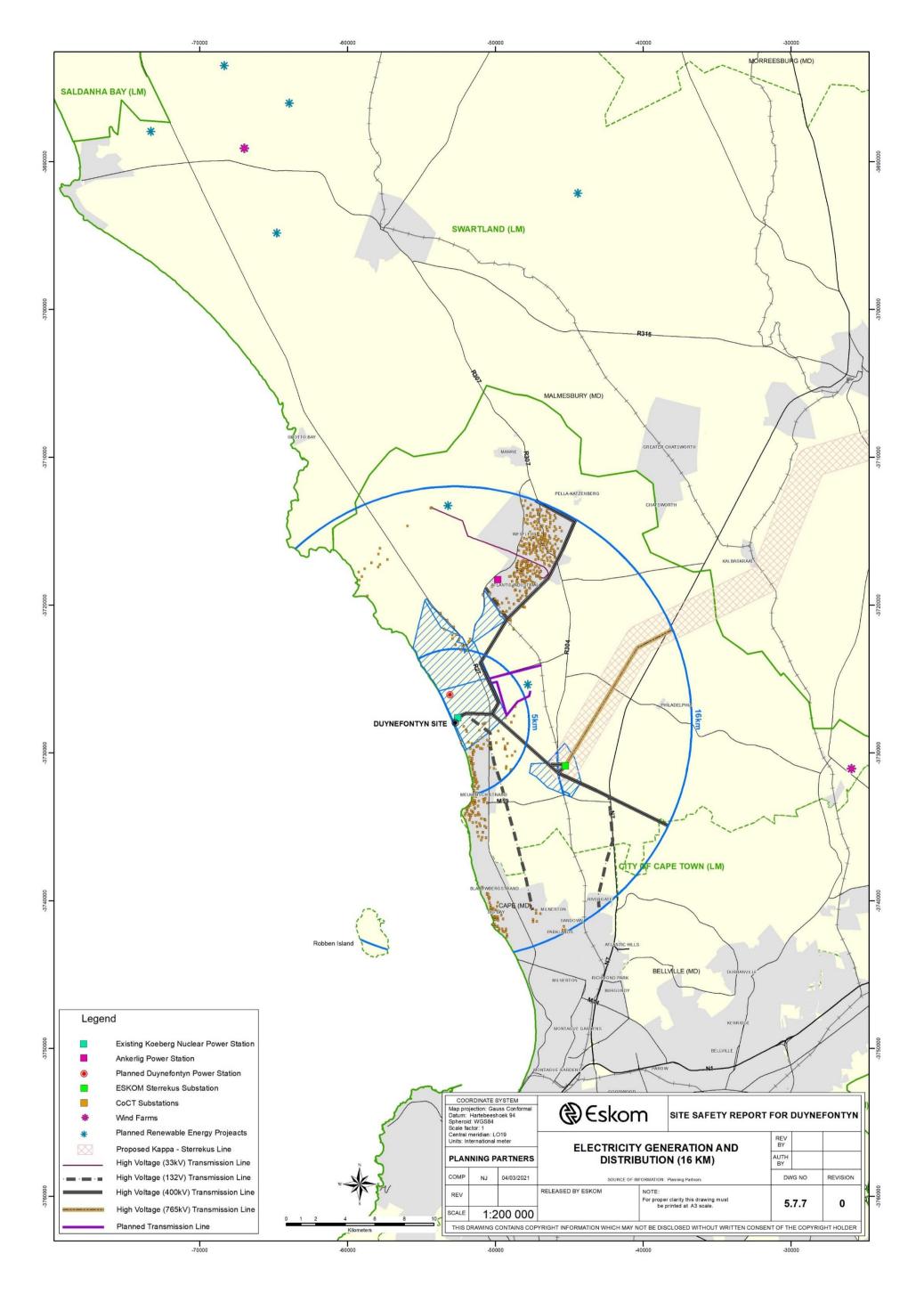
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A 75 MW solar photovoltaic energy generation facility (solar park) is planned on a farm 4.5 km east northeast of the site, which will extend over 134 ha and consist of approximately three hundred and thirty three thousand 450/500 Watt solar modules and a Lithium-ion based Battery Energy Storage System (BESS), where the electricity is to be stored. The BESS (containing 12 battery operating systems) will consist of multiple battery units housed in shipping containers and/or an applicable housing structure, which is delivered pre-assembled to the project site. Supplementary infrastructure and equipment may include substations, power cables, transformers, power converters, substation buildings and offices, High Voltage/Medium Voltage (HV/MV) switch gear, inverters and temperature control equipment that may be positioned between the battery containers (Withers, 2012), (Cornerstone, 2021).

Apart from electricity sub-stations to be installed on the proposed nuclear installation(s) on the site and a new High Voltage yard planned adjacent and to the northeast of the KNSP, no new electricity sub-stations are currently planned in the site vicinity (Planning Partners, 2020e).

5.7.10.6 Power Supply to the Site

Power supply during construction (22kV/132kV) will be taken from the existing infrastructure at the KNPS (Eskom, 2008).



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5.7.11 Civil Services and Telecommunication Infrastructure

5.7.11.1 Existing Water Treatment Works

Water treatment works (WTWs) that service urban settlements in the site region were investigated, with a more detailed discussion provided for the site vicinity.

Water treatment works and associated infrastructure located in the site region supply potable water to a portion of the population in the region. The numbers provided within the text correspond with the codes illustrated in *Drawing 5.7.8* and *Table 5.7.21* (Planning Partners, 2020f).

There are 37 (WTWs located in the site region (refer to <u>Table 5.7.21</u>). The City of Cape Town has 12 WTWs within its municipal area, ranging from 3 Mt to 500 Mt facilities. Collectively, the WTWs have a capacity to treat approximately 1 600 Mt of water per day. Drakenstein Municipality has a total of 4 WTWs with a combined capacity of 15.7 Mt/day. Stellenbosch Municipality has a total of 3 WTWs with a combined capacity of 18 Mt/day. Swartland Municipality has a total of eight WTWs with a combined capacity of 318 Mt/day. These WTWs are illustrated in <u>Drawing 5.7.8</u> (Planning Partners, 2020f).

The following two WTWs are located in the site vicinity (Planning Partners, 2020f):

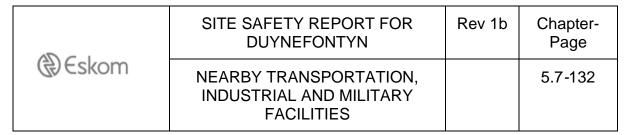
- The Witzands WTW (W1, 5.7 km north) consists of a wellfield, ion-exchange softening plant and chlorine disinfection plant and has a capacity of 14.0 Mℓ/day. The water originates from wellfields and the Atlantis Aquifer (30 boreholes).
- The Silwerstroom WTW (W2, 11.6 km northwest) has a design capacity of 3 Ml/day. The water originates from the Silwerstroom wellfields (14 boreholes).

The regional WTWs in the site region include: Paardeberg (W6), Faure (W12), Wemmershoek (W22), Voëlvlei (W26), Swartland (W27), Steenbras (W28) and Withoogte (W31).

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Table 5.7.21 Existing Water Treatment Works in the Site Region

Code	WTW Name	Distance (km)	Direction
W1	Witzands	5.7	N
W2	Silwerstroom	11.6	NW
W3	Kloofnek	30.3	S
W4	Albion Springs	32.4	S
W5	Constantia Nek	36.6	S
W6	Paardeberg	37.0	NE
W7	Blackheath	40.8	SE
W9	Meulwater	48.1	Е
W10	Paarl Mountain	48.1	E
W12	Faure	50.2	SE
W13	Idas Valley	50.6	ESE
W14	Paradyskloof	51.7	SE
W15	Pniel	54.0	ESE
W16	Brooklands	54.6	S
W17	Wellington	54.6	Е
W18	Welvanpas	54.8	Е
W19	Simon's Town Naval Base	57.6	S
W20	Helderberg	59.4	SE
W21	Old Strand	61.0	SE
W22	Wemmershoek	61.8	ESE
W23	Bainskloof	62.5	Е
W24	Paradyskloof	62.5	SE
W25	Idas Valley	62.9	ESE
W26	Voëlvlei	64.6	ENE
W27	Swartland	65.4	NE
W28	Steenbras Dam	67.4	SE
W29	Hopefield	69.4	N
W30	Franschhoek	70.2	ESE
W31	Withoogte	71.0	NNE
W32	Grabouw	75.2	SE
W33	Dwarsrivier Prison	75.4	ENE
W34	Saron	77.2	NE
W35	Saron (2)	77.4	NE
W36	Stettynskloof Dam	78.2	ESE



Code	WTW Name	Distance (km)	Direction
W37	Wolseley	79.2	ENE
W38	Tulbagh	79.9	ENE
W39	Obiqua Prison	80.0	NE

The nearest public operated desalination plant to the site is located at the V&A Waterfront (25 km south), which has a capacity of 2 Ml/day (Planning Partners, 2020f). Desalination as a source of potable water to supply municipalities in the site region is discussed in <u>Section 5.5</u>. Desalination as a source for water supply the KNPS and proposed nuclear installation(s) is discussed in **Section 5.12**.

5.7.11.2 Future Water Treatment Works

Since the drought period experienced in the Western Cape, the City of Cape Town has focussed on water savings, water re-use and leak repairs, rather than on increasing bulk potable water sources. However, a large scale WTW is planned in the site region, the 500 Ml WTW at Muldersvlei (W8). A new WTW is also planned at Faure (W11) (Planning Partners, 2020e). The City of Cape Town has also investigated possible sites for additional water desalination plants and found that it is feasible to establish a 100 to 150 Ml/day plant within the Port of Cape Town (Water Consultants International, 2018).

The Darling, Moorreesburg and Withoughe WTWs in the Swartland municipal area are planned to be upgraded (Planning Partners, 2020f).

The Paarl, Wellington, Saron, Welvanpas and Meulwater WTWs in the Drakenstein municipal area are planned to be upgraded (Planning Partners, 2020f).

5.7.11.3 Existing Wastewater Treatment Works

A total of 48 wastewater treatment works (WWTWs) were identified in the site region, of which 4 are located in the site vicinity. The numbers provided within the text correspond with the codes illustrated in **Drawing 5.7.8** and **Table 5.7.22** (Planning Partners, 2020f).

A more detailed study was undertaken of the four WWTWs located in the site vicinity.

The nearest WWTW to the site is located at Melkbosstrand (S1, 4.1 km southeast). The sludge activated treatment works has a capacity

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5.4 Ml/day (Planning Partners, 2020f).

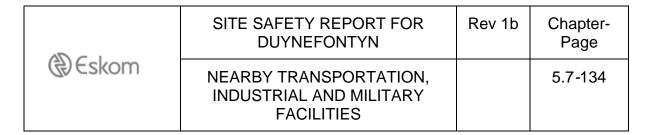
Atlantis has two activated sludge and biological nutrient removal WWTWs, located at Wesfleur (S2, 8.6 km north-northeast), with a capacity of 6 Ml/day and at Groot Springfontein (S3, 12.2 km north-northwest) that serve the residential area, with a capacity of 0.1 Ml/day (Planning Partners, 2020f).

Philadelphia is served by an oxidation pond system (S4, 15 km east) with a capacity of 0.086 Ml/day (Planning Partners, 2020f).

An important WWTW near the site vicinity is the Potsdam WWTW (S6, 20.0 km south-southeast), a combined activated sludge and biological nutrient removal treatment works, with a capacity of 55 Ml/day (Planning Partners, 2020f).

Table 5.7.22
Existing Wastewater Treatment Works in the Site Region

Code	WWTW Name	Distance (km)	Direction
S1	Melkbosstrand	4.1	SE
S2	Wesfleur Industrial	8.6	NNE
S3	Groot Springfontein (Dover)	12.2	NNW
S4	Philadelphia	15.0	E
S5	Robben Island	16.2	SSW
S6	Bellville	19.6	SSE
S7	Kalbaskraal	22.3	ENE
S8	Green Point Outfall	25.1	S
S9	Parow	27.5	SSE
S10	Kraaifontein	29.7	ESE
S11	Malmesbury	34.7	NE
S12	Oudekraal	34.8	SSW
S13	Borcherd's Quarry	35.2	SSE
S14	Chatsworth	35.3	NE
S15	Scottsdene	35.3	SE
S16	Darling	36.0	N
S17	Paardeberg Correctional Centre	38.6	E
S18	Klapmuts	42.0	ESE
S19	Athlone	42.0	S



Code	WWTW Name	Distance (km)	Direction
S20	Cape Flats	42.0	S
S21	Gordon's Bay	42.0	S
S22	Macassar (Strand)	42.0	S
S23	Zandvliet	42.0	S
S24	Hout Bay	43.1	S
S25	Mitchells Plain	45.5	SSE
S26	Wupperthal	45.7	SE
S27	Stellenbosch	46.9	SE
S28	Wellington	50.6	E
S29	Raithby	52.6	SE
S30	Riebeeck West Correctional Centre	54.0	NE
S31	Pniel	54.0	ESE
S32	Riebeeck Wes	55.3	NE
S33	PPC	55.7	NE
S34	Simon's Town	55.8	S
S35	Hermon	56.3	ENE
S36	Riebeeck Kasteel	56.3	NE
S37	Wemmershoek	60.2	ESE
S38	Moorreesburg	63.9	NNE
S39	La Motte	64.1	ESE
S40	Franschhoek	66.1	ESE
S41	Gouda	69.7	NE
S42	Hopefield	69.8	N
S43	Saron	75.1	NE
S44	Dwarsrivier Correctional Centre	75.5	ENE
S45	Langebaan	76.0	NNW
S46	Wolseley	76.1	ENE
S47	Koringberg	77.3	NNE
S48	Tulbagh	78.5	NE

5.7.11.4 Future Wastewater Treatment Works

A number of areas within the CMA experience sanitation network constraints, with severe constraints experienced in the drainage areas of Athlone, Bellville, Cape Flats, Gordon's Bay, Potsdam, Simonstown, Atlantis and Zandvliet WWTWs. Five of the City of Cape Town's WWTWs

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are scheduled for refurbishments in the short-term, namely Cape Flats, Mitchells Plain, Bellville, Scottsdene and Gordon's Bay. In addition, eight of the City of Cape Town's WWTWs, including the Wesfleur WWTW located in the site vicinity, and Athlone, Bellville, Borcherds Quarry, Macassar, Northern Regional, Potsdam and Zandvliet are proposed to be expanded for additional capacity (Planning Partners, 2020f).

The Darling, Moorreesburg, Koringberg and Chatsworth WWTWs are also planned to be upgraded (Planning Partners, 2020f).

The Paarl, Wellington and Gouda WWTWs are planned to be upgraded in the Drakenstein municipal area (Planning Partners, 2020f).

The Klapmuts and Pniel WWTWs are planned to be upgraded in the Stellenbosch municipal area (Planning Partners, 2020f).

5.7.11.5 Existing Solid Waste Facilities

The City of Cape Town has four solid waste landfill sites within its municipal area, namely (Planning Partners, 2020f):

- Vissershok (SW3, 15.1 km southeast): A public-owned regional waste disposal site and accepts a range of waste types, including hazardous wastes. The facility has a remaining lifespan up to mid-2021.
- The adjacent privately-owned Vissershok Waste Management Facility/Enviroserv (SW2, 15.0 km southeast) also accepts hazardous and medical waste.
- Bellville South (SW6, 35.4 km southeast): The facility has a remaining lifespan up to mid-2024. Note however, that the site license is limited up to mid-2021.
- Coastal Park, Muizenberg (SW8, 46.4 km south): The facility has a remaining lifespan up to the first quarter of 2030.

In addition, the City of Cape Town has three major waste transfer stations, located at Athlone, Kraaifontein and Gordon's Bay (City of Cape Town, 2018).

The Swartland Municipality has the following four landfill sites located within its municipal area (Planning Partners, 2020f):

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- Highlands (SW5, 30.5 km northeast): This facility receives hazardous waste for transfer to the City of Cape Town's Vissershok site. The facility has a remaining lifespan up to 2045.
- Darling (SW7, 36.0 km north): The facility has a remaining lifespan up to 2028.
- Riebeeck West (SW11, 55.1 km northeast): The site is near the end of its expected lifespan.
- Moorreesburg (SW12, 64.3 km north-northeast): The estimated lifespan of the facility has not been determined by the Swartland Municipality as yet.

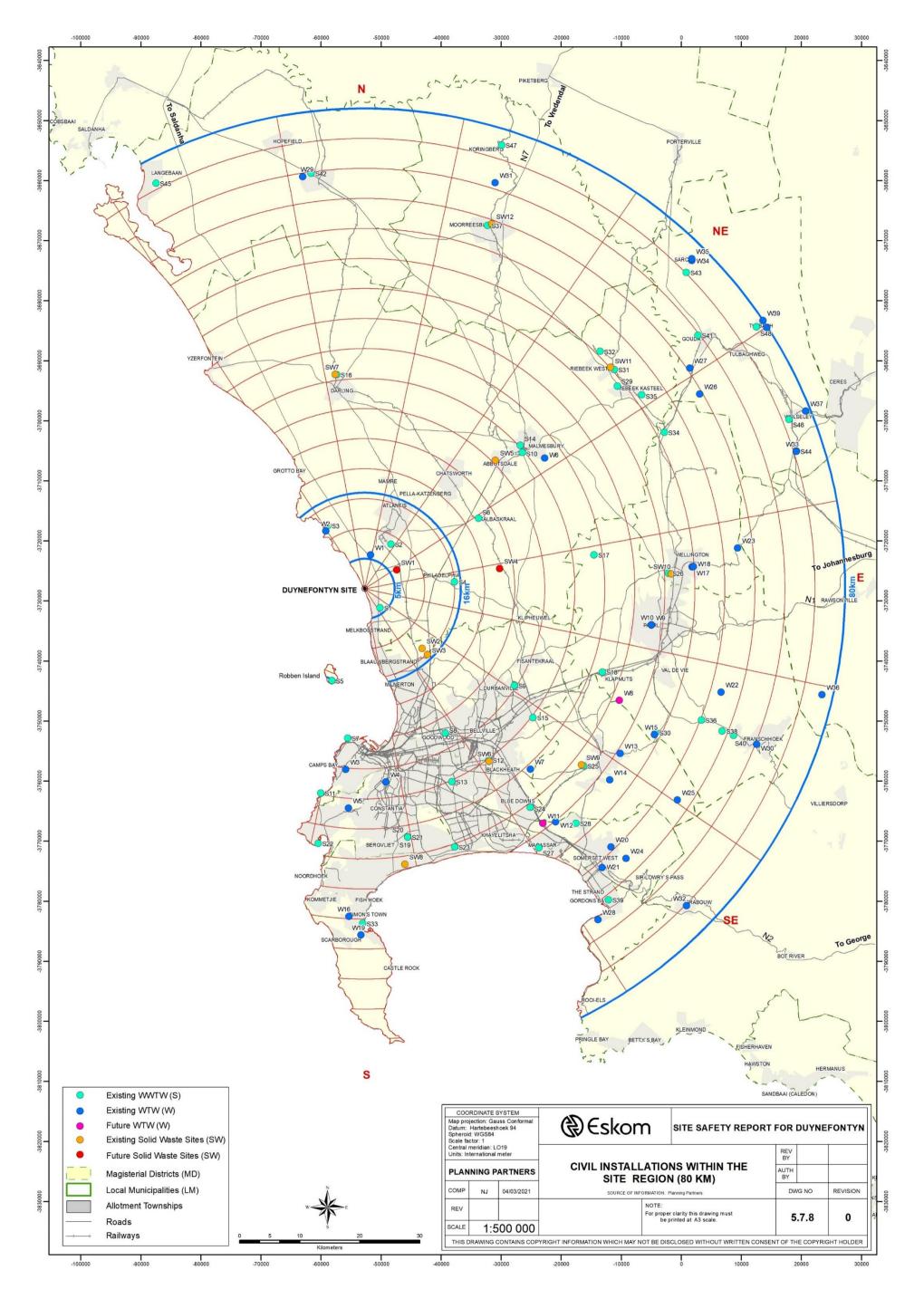
The Stellenbosch Municipality has one landfill site located within its municipal area, located west of Stellenbosch (SW9, 46.5 km southeast). The facility has a remaining lifespan up to 2059 (Planning Partners, 2020f) (Stellenbosch Municipality, 2019).

The Drakenstein Municipality has one landfill site located within its municipal area, located west of Wellington (SW10, 51.1 km east). The facility has a remaining lifespan up to 2027 (Planning Partners, 2020f) (Department of Environmental Affairs and Development Planning, 2020).

5.7.11.6 Future Solid Waste Facilities

A landfill site is planned within the site vicinity, south of Atlantis (SW1, 6.7 km northeast). A regional landfill site is also planned near Kalbaskraal (SW4, 22.7 km east) (Planning Partners, 2020f).

In addition, the City of Cape Town is planning two new transfer stations, to be located at Bellville and Swartklip (Planning Partners, 2020f).



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5.7.11.7 Existing Telecommunication Infrastructure

Telecommunication infrastructure, a potential source of electromagnetic interference and part of the communication network, was identified for the site vicinity (16 km) and is described hereunder. The information will inform the evaluations conducted for *Chapter 6* of the DSSR.

a) Telkom Infrastructure

Telephone exchange data were obtained for the site vicinity, together with the total number of subscribers. This information is summarised in <u>Table 5.7.23</u> and illustrated in <u>Drawing 5.7.9</u>. The codes (T) used on this drawing correspond to <u>Tables 5.7.23</u> and <u>Table 5.7.24</u> (Planning Partners, 2020f).

As illustrated, there are six telephone exchanges located in the site vicinity. The number of subscribers has reduced significantly since 2008, as the service provider campaigned to move existing subscribers to their mobile network (Planning Partners, 2020f).

Table 5.7.23
Telephone Exchanges in the Site Vicinity

Exchange	Distance (km)	Direction	Number of Subscribers in the Site Vicinity (2017)
T1 - Melkbosstrand	5.5	SSE	3 950
T3 - Atlantis (Altria)	10.8	NNE	756
T5 - Bloubergstrand	13.6	SSE	6 184
T6 - Philadelphia	13.8	Е	89
T8 - Atlantis (Saxonsea)	14.2	NNE	2 344
T9 - Robben Island	15.3	SSW	141

Telkom has three microwave towers located in the site vicinity which are located at Melkbosstrand, Philadelphia and Atlantis, as presented in *Table 5.7.24* (Planning Partners, 2020f).

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Table 5.7.24 Microwave Towers in the Site Vicinity

Microwave Tower	Distance (km)	Direction
T2 - Melkbosstrand	5.5	SSE
T4 - Philadelphia	13.6	E
T7 - Atlantis	13.9	NNE

There are no radio or television transmitters connected to Telkom infrastructure in the site vicinity (Planning Partners, 2020f).

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c) Cellular Communication Base Stations

Cellular communication base stations and transmitters were identified for the site vicinity, as well as an extended area to a 35 km radius from the site (for emergency planning purposes). The cellular base stations and transmitters that occur in the site vicinity and the 35 km radius are presented in <u>Appendix B</u>, <u>Table B.1</u> and illustrated in <u>Drawing 5.7.9</u>. Due to the large number of sites, individual codes have not been included in this drawing. The data set included as <u>Appendix B</u>, <u>Table B.1</u> provides the individual sites and their distance and direction (Planning Partners, 2020f).

A total of 860 cellular base stations and transmitters are located within a 35 km radius of the site, of which 66 cellular base stations and transmitters are located in the site vicinity (Planning Partners, 2020f).

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The closest cellular base station to the site is situated to the north of the residential suburb of Duynefontein (C1, 2.0 km south) (Planning Partners, 2020f).

d) Radio and Television Transmitters

Sentech, a public-owned enterprise, controls all radio and television transmitters in the site region. There are no radio or television transmitters located in the site vicinity. The Sentech Tygerberg transmitter station (26.7 km southeast, RT1) is the nearest to the site. An additional transmitter station is located at Aurora (23.0 km southeast, RT2). Sentech handles all transmissions of radio and television programmes and its location is illustrated in *Drawing 5.7.9* (Planning Partners, 2020f).





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5.7.12 Military Facilities and Activities

5.7.12.1 South African Airforce Bases

a) AFB Ysterplaat

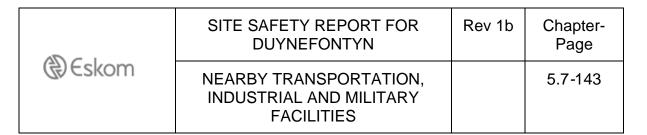
Airforce Base (AFB) Ysterplaat (25.9 km south-southeast, M2 in <u>Drawing 5.7.10</u>) has one asphalt runway, orientated at 02/20 with a dimension of 1 585 × 23 m. There are landing lights and ten hangars plus a control tower (Planning Partners, 2020h).

Note information that flight movements and aircraft on incidents/accidents at the airforce base is classified as confidential and the airforce base would therefore not disclose it. In the absence of official aircraft data, certain information pertaining to the airforce base could however be obtained from the unofficial South African Airforce website and a summary is included in Table 5.7.25. Note that only one incident was reported at AFB Ysterplaat in the last 10 years, namely a Hercules aircraft that left the runway and experienced minor damage on 5 July 2020. In addition, it can be noted that the two largest aircraft that the SA Airforce uses are the (i) Boeing 737-7 (maximum take-off weight of 77.6 t and a fuel capacity of 26.0 t) and (ii) Hercules C-130B (maximum take-off weight of 70.3 t and a fuel capacity of 11.1 t). The fastest aircraft used by the SA Airforce are the SAAB Gripen C & D fighter jets, which have a top speed of 1.9 mach and a fuel capacity of 3.4 t (Planning Partners, 2020h).

Other aviation incidents/accidents involving military aircraft are included under **Subsection 5.7.15.1**.

Table 5.7.25
Summary of AFB Ysterplaat

Entity based at AFB Ysterplaat	Aircraft based at AFB Ysterplaat	Function
22 Squadron	Oryx: Maximum take-off weight: 8.5 t Weapons: 7.62 mm MAG Light Machine Gun Fuel capacity: 1.5 t Super Lynx 300: Maximum take-off weight: 5.3 t Weapons: M3M 12.7 mm Machine Gun Fuel capacity: 0.8 t	Helicopter squadron



Entity based at AFB Ysterplaat	Aircraft based at AFB Ysterplaat	Function
35 Squadron	C-47TP Turbo Dakota: Maximum take-off weight: 13.0 t Weapons: none Fuel capacity: 3.4 t	Transport squadron
110 Squadron	Light Aircraft	Light transport
505 Squadron	-	Security services
80 Air Navigation School	C-47TP Turbo Dakota and light aircraft	Training
SAAF Museum	Various	Historical
2 Air Support Units	-	Logistical support
NSRI	-	Emergency services

AFB Ysterplaat previously hosted air shows to showcase civilian and military aircraft. However, since 2013 the SANDF has scaled down on air shows and air shows at the airforce base have been cancelled indefinitely (Planning Partners, 2020h).

There are currently no plans for future military development at this base (Planning Partners, 2020h).

b) AFB Langebaanweg and Somersveld

AFB Langebaanweg (82.2 km north-northwest, M9 in <u>Drawing 5.7.10</u>) is located outside of the site region. It serves as the base of the Central Flying School. The airfield is also the base of the Silver Falcons, the South African Air Force elite acrobatic team. The squad uses the airfield for practice training (Planning Partners, 2020h).

The base has a control tower, landing lights and five hangars. The airfield has four asphalt runways with the following specifications (Planning Partners, 2020h):

- runway 20/02, 46 m wide and 2 341 m long;
- runway 20/02, 46 m wide and 2 344 m long;
- runway 16/34, 46 m wide and 1 991 m long;
- runway 07/25, 46 m wide and 1 504 m long.

Table 5.7.26 provides a summary of the airfield's activities (Planning

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Partners, 2020h).

Table 5.7.26
Summary of AFB Langebaanweg

Entity based at AFB Langebaanweg	Aircraft based at AFB Langebaanweg	Function
Central Flying School	PC-7 Mk II Astra: Maximum take-off weight: 2.7 t Weapons: none Fuel capacity: 474 kg	Training
2-Air servicing units	-	Maintenance support
526 Squadron	-	Security services
Silver Falcons acrobatic team	PC-7 Mk II Astra	Training

The Somersveld airfield (48.1 km north, M6) is utilised as an auxiliary facility for the Central Flying School. It has one asphalt runway (1 186×46 m) and a control tower, with no hangars. The airfield accommodates the same type of aircraft as reflected in <u>Table 5.7.26</u> for AFB Langebaanweg (Planning Partners, 2020h).

Data on flight movements at these two airfields were not provided by the SANDF, as the data are classified as confidential. Note that according to available information, no accidents were reported for the aircraft that are based at AFB Langebaanweg in the last 10 years (Planning Partners, 2020h).

c) Flight Movements for the period 2018/2019 to 2020/2021

5.7.12.2 Data sourced from the Department of Defence's Annual Performance Plan 2022 indicates that the South African Airforce flew 17 870.2 hrs in 2018/19, 16 232.6 hrs in 2019/2020 and 13 726.4 hrs in 2020/2021. In 2020/2021 10 488.5 hrs flown were for force preparation, 2 914 hrs flown were for force employment and 323.9 hrs were for very very important persons/personnel (Department of Defence, 2022). South African Naval Bases

The Simon's Town Harbour (57.0 km south, M7 in <u>Drawing 5.7.10</u>), operated and managed by Armscor, is dominated by the South African Naval Base and is the main naval facility in South Africa. The function of the Simon's Town Harbour is to provide a safe and secure harbour in terms of berthing and pilotage services for SA naval and visiting vessels

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to Simon's Town. There are also naval maintenance and repair sections (Planning Partners, 2020h).

The naval harbour is surrounded by stone and reinforced concrete quays and walls. It consists of various areas, including three turning and mooring basins. These areas include (Planning Partners, 2020h):

- an extensive ship support and repair facility along the quays;
- the Inner Basin with berths and the Selbourne dry dock;
- the Tidal Basin with berths;
- the Still Water Basin with berths.

The harbour has the world's first VHF Data Exchange System base station, which allows significantly faster data transfers to and from ships (Planning Partners, 2020h).

The SA Navy also have a training facility in Gordon's Bay (M8), with no naval harbour facilities. The facility uses jetties in the Gordon's Bay Harbour (Planning Partners, 2020h).

Another naval facility is located at the Port of Saldanha (located outside the site region).

The SA Navy is empowered to protect the South African waters and coastline. It can therefore be assumed that navy vessels patrol the coast and pass the site from time to time (Planning Partners, 2020h).

5.7.12.3 South African Military Bases

The Wingfield (27.2 km south-southeast, M3) and Youngsfield (36.6 km south, M4) bases provide accommodation, technical support and training services to the South African Army (Planning Partners, 2020h).

The South African Infantry No. 9 base (46.2 km south-southeast, M5 in *Drawing 5.7.10*) is the only South African Army battalion in the site region. It is a motorised infantry unit, located near Eerste River (Planning Partners, 2020h).

5.7.12.4 Military Practice and Exercise Areas

Several military practice and exercise areas are located in the site region,

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as is illustrated in <u>Drawing 5.7.10</u>. The activities within these practice and exercise areas include the testing of air-to-air weapons and air-to-ground weapons, naval exercise manoeuvres, sound testing and disused ammunition dumping grounds. There is also a military shooting range located near Atlantis (M1 in <u>Drawing 5.7.10</u>, 7.5 km north-northeast), which is used for rifle training and shooting exercises (Planning Partners, 2020h).

5.7.12.5 Future Military Development

According to available information, no new military, airforce or naval projects are planned in the site region (Planning Partners, 2020h).

The City of Cape Town has investigated the possibility of redeveloping AFB Ysterplaat, Youngsfield and Wingfield bases for affordable housing. This process has however not yet commenced (Planning Partners, 2020h).



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5.7.13 Storage of Hazardous Substances in the Site Vicinity

Stored hazardous substances in the site vicinity were evaluated and the results are presented in this subsection. The investigation focused on potential sources of risk located in the site vicinity in accordance with international best practice (U.S. Nuclear Regulatory Commission, 2001), (U.S. Nuclear Regulatory Commission, 1997), (U.S. Nuclear Regulatory Commission, 2007) and the approach to the areas of investigation as described in **Subsection 5.7.4.1**.

5.7.13.1 Industrial Facilities

The Atlantis industrial area (9 km north-northeast) is the only industrial area in the site vicinity. The industrial area accommodates both light and heavy industrial uses. A telephone and email survey was undertaken of each business within this area to determine the type and amount of hazardous substances stored on-site at these industrial premises. The results of the survey are attached as <u>Appendix C</u>. The largest volumes of hazardous substances that were recorded at industrial sites are $80\ 000\ \ell$ of LPG, $47\ 000\ \ell$ of diesel and $14\ 000\ \ell$ of petroleum, stored at two premises in the industrial area (Planning Partners, 2020i).

The Ankerlig OCGT (9.8 km north-northeast) consists of four diesel operated OCGTs and has two 2 700 m³ diesel storage tanks, located on the southern portion of the property. Two propane tanks of 6.5 m³ each are also located on site (Planning Partners, 2020i).

In addition, the Ankerlig Gas 1 Plant consists of five turbines and contains four 6.5 m³ propane tanks, two 2 700 m³ and one 5 400 m³ diesel tanks (Planning Partners, 2020i).

Furthermore, the Ankerlig OCGT Conversion Project contains an additional eight 5 400 m³ diesel tanks, located on the northern portion of the property (Planning Partners, 2020i).

As per South African Safety Standards (SANS 10089), each tank or group of tanks is contained within a bunded area as a safety measure. The bunded area must be able to contain the volume of the largest tank within the bunded area, as well as 40 minutes of fire-fighting water in case of fire emergencies (Planning Partners, 2020i).

The hazardous substances stored at the Ankerlig facility is provided in *Table 5.7.30* and *Table 5.7.32* in *Subsection 5.7.13.8*.

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5.7.13.2 Service Stations

The survey that was undertaken during 2018 of all service stations located in the site vicinity recorded twelve services stations. <u>Table 5.7.27</u> provides a summary of the identified service stations and the volume of petrol, diesel and LPG stored on-site (Planning Partners, 2020i).

Table 5.7.27
Summary of Hazardous Substances Stored at Service
Stations in the Site Vicinity

Service Station	Distance and Direction	Volume of Petrol (ℓ)	Volume of Diesel (ℓ)	Volume of LPG (kg)
Caltex Melkbosstrand	6.0 km S	92 000	23 000	18
Sasol Melkbosstrand	6.2 km SSE	69 000	23 000	180
Total Melkbosstrand	6.9 km SSE	92 000	46 000	2 000
BP Atlantis	10.8 km NNE	184 000	23 000	0
Engen N7	11.2 km E	69 000	46 000	0
Exel Atlantis	11.6 km NNE	23 000	23 000	0
Engen Atlantis (Kim's)	11.5 km NE	66 000	23 000	2 000
Engen Saxonwold Atlantis	12.1 km NE	37 000	23 000	0
Shell Atlantis	13.8 km NNE	66 000	44 000	0
Caltex Atlantis	14.1 km NNE	69 000	14 000	0
Engen Sunningdale	15.1 km SSE	69 000	23 000	360
BP Sandown	15.6 km SSE	50 000	20 000	360
Total:		886 000	331 000	4 918

5.7.13.3 Mining Activities, Brickfields and Coal Burning Facilities

The investigation into mining activities in the site vicinity found that the only quarry situated in the site vicinity, located on the Ou Skip Road, east of Melkbosstrand (3.4 km south-southeast), is no longer operational (Planning Partners, 2020i).

Sand mining activities take place south of Dassenberg Drive in Atlantis

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(6.8 km north-northeast).

There is only one brickfield (7.6 km northeast) located in the site vicinity. This facility stores 16 000 ℓ of diesel in a 23 000 ℓ aboveground steel tank. There is also 860 t of coal, six 210 ℓ oil drums, two acetylene bottles and three Teral bottles stored on-site (Planning Partners, 2020i).

All coal burning installations in the site vicinity have been identified and are indicated in <u>Drawing 5.7.6</u>. Details of these installations are provided under <u>Subsection 5.7.9.3</u> above, e.g. location and total annual coal consumption (Planning Partners, 2020i).

5.7.13.4 Drilling and Blasting

As described in <u>Section 5.15</u>, the foundations for any future nuclear facility on the site will be taken down to bedrock level, meaning that excavations will be through overburden sands. For that reason, no blasting or drilling will be required during excavations.

5.7.13.5 Water Treatment Works and Wastewater Treatment Works

There are two water treatment works (WTW) located in the site vicinity, which use hazardous substances (see <u>Drawing 5.7.8</u>). The Witzands WTW (5.7 km north) stores between 18 and 20 t of liquid sulphuric acid and 1.5 t of chlorine on-site. The Silwerstroom WTW (12.0 km north-northwest) stores 1.5 t chlorine on-site (Planning Partners, 2020i).

There are two wastewater treatment works (WWTW) located in the site vicinity, which use hazardous substances (see <u>Drawing 5.7.8</u>). The Wesfleur WWTW (9.0 km north-northeast) and the Melkbosstrand WWTW (4.9 km southeast) both store 400 kg of chlorine tablets (Planning Partners, 2020i).

5.7.13.6 Hazardous Solid Waste Sites

There are two solid waste disposal sites situated in the site vicinity, both located at Vissershok, adjacent to the N7 Freeway (13.5 km southeast, see *Drawing 5.7.8*). The sites are used for the disposal of industrial, medical and domestic waste, which includes inorganic, sewage sludge, waste oils, asbestos-containing substances, medical and mineral waste. The City-owned Vissershok solid waste disposal site received a total of 9 347 t of hazardous waste during 2018 and 5 976 t during 2019 (City of Cape Town, 2021) and the privately-owned Enviroserv solid waste disposal site received a total 18 316 t of hazardous waste during 2018

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and 19 134 t during 2019 (Enviroserv, 2021).

The Vissershok waste site has a 20 000 ℓ diesel storage tank and a 40 000 ℓ glycerol underground storage tank. Smaller volumes of hazardous substances include 700 ℓ of oil and 1 500 ℓ of hydrochloric acid (Planning Partners, 2020i).

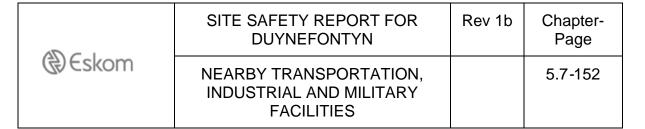
5.7.13.7 Fertilizer

As part of an agricultural production survey that was undertaken in the site vicinity, data were collected for the year 2018 and farm owners and managers were asked to report on fertilizer used and stored on farms in the site vicinity. The survey confirmed that a few farms receive and store fertilizer on-site, which included organic, Monoammonium Phosphate (MAP), Calcium Ammonium Nitrate (KAN), Limestone Ammonium Nitrate (LAN) and various mixtures of Nitrogen, Phosphorus and Potassium. Volumes of fertilizer recorded on farming units ranged between 0.03 and 400 t (Planning Partners, 2020d).

The survey concluded that a total of 813 t of inorganic fertiliser and 586 t of organic fertilizer were delivered, stored or used at any given time in the site vicinity. A summary of fertiliser delivered to farms in the site vicinity is presented in <u>Table 5.7.28</u>. The table lists each farm with the type and average volumes of fertiliser stored annually (Planning Partners, 2020c).

Table 5.7.28
Summary of Fertiliser Delivered and/or Stored on Farms in the Site Vicinity

	Inventory (per year, 2018)		Distance	
Farms (Farming Unit)	Туре	Volume (t)	Distance (km)	Direction
22/2, 1373/33	MAP	30	14.1	ENE
	10P	70		
	10K	33		
20/5, 1184	MAP	6.5	15.4	NE
36, 37, 1180, 79/1, 45	Organic	400	9.8	ENE
38, 39	MAP	20	9.3	Е
	KAN	30		
81, 81/1, 101	401	80	8.4	ESE
77, 78, 80, 84/1, 1509	KAM	100	9.9	ESE
	Organic	100		



	Inventory (per year, 2018)		Distance	
Farms (Farming Unit)	Туре	Volume (t)	Distance (km)	Direction
88, 89/2, 91, 20/40	Lime Dolomite	2 84	9.1	SE
104	KAN MAP	50 20	14.8	SE
45/2, 1179	KAN MAP	120 60	14.9	E
1503	MRP	170	15.9	SE
41, 41/1	101/14 100/40	10 8	12.1	E
22/33	LAN 223	0.5 0.5	13.2	ENE
1536	Bounceback	3	13.1	ESE
137, 139, 957	KAM	0.1	16.0	SE
20/88	315	1	15.8	NE
Total: 1 398.6 (Un-organic = 813 t and organic = 586 t)				

5.7.13.8 Koeberg Nuclear Power Station "A" Units 1 and 2

The hazardous substances that are stored at the KNPS site as reported by Eskom for the year 2018 is provided in <u>Table 5.7.29</u>, <u>Table 5.7.30</u> and <u>Table 5.7.32</u> in <u>Subsection 5.7.13.8</u> (Planning Partners, 2020i).

There are three levels of waste at the KNPS, namely low-level waste, intermediate-level waste and high-level waste (e.g. spent fuel).

Low-level waste consists of waste which may be contaminated with small quantities of radioactive material, which is generated in the controlled radiological areas of the KNPS. This waste is usually in the form of clothing, plastics, insulation material, paper and coveralls. These items are sealed in drums and stored on-site until they are moved to the Vaalputs Radioactive Waste Disposal Site, located in the Northern Cape (Eskom, 2021b).

Intermediate-level waste consists of purification sludges, spent resins, filter cartridges and irradiated scrap metal. This waste is more radioactive than the refuse, but less radioactive than spent fuel. It is mixed with concrete and sealed into concrete drums. These drums are stored on-site until they are moved to Vaalputs (Eskom, 2021b).

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Spent fuel (high-level radioactive waste) stored on-site is fuel that has been used in the fission process and is radioactively extremely dangerous. When it is removed from the KNPS reactor vessels, it is stored in spent fuel pools. After a minimum of 10 years in a spent fuel pool, it is moved into thick-walled dry-storage casks which can be stored above ground for up to 40 years. This is known as dry storage/interim storage. Each spent fuel assembly contains radioactive materials which fall into three categories:

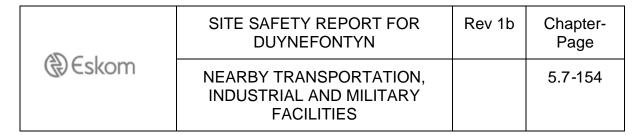
- The first category contains the fission products (such as caesium, iodine, stroulium, and xenon), which are the most radioactive components of spent fuel when it leaves the reactor vessel for the fuel pool, but decay to low levels relatively quickly and after 1 000 years only about 400 GBq (10 curies) of the longest-lived fission products such as iodine 129, remain.
- The second category contains the actinides, which are isotopes of uranium and heavier metals including plutonium. These are long-lived materials which take 10 000 years to decay to about 800 GBq (20 curies).
- The third category contains the structural materials of the fuel assemblies which become radioactive through irradiation by neutrons. They only add a small amount of radiation to the whole spent fuel assembly total and decay in about 500 years to less than 200 GBq (5 curie) (Eskom, 2021b).

5.7.13.9 Summary of Hazardous Materials Stored in the Site Vicinity

A summary of the hazardous materials stored in the site vicinity is presented in <u>Table 5.7.29</u> to <u>Table 5.7.32</u>. <u>Annexure 5.7.C</u> contains more detailed information on the type and volumes of hazardous substances stored at each of these facilities (Planning Partners, 2020i).

Table 5.7.29
Hazardous Substances Stored in the Site Vicinity:
Petroleum

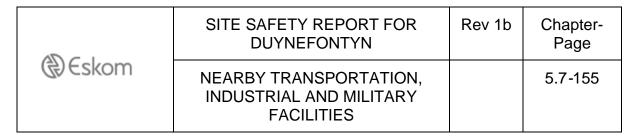
Substance	Inventory	Facility/ Location	Distance (km)	Direction
Petroleum	14 000 ℓ	KNPS	-	-
	90 ℓ	Melkbosstrand NSRI	5.8	S



Substance	Inventory	Facility/ Location	Distance (km)	Direction
	92 000 l	Caltex, Melkbosstrand	6.0	S
	69 000 l	Sasol, Melkbosstrand	6.2	SSE
	92 000 l	Total, Melkbosstrand	6.9	SSE
	400 kg	Wesfleur WWTW	9.00	NNE
	184 000 ℓ	BP, Atlantis	10.8	NNE
	69 000 l	Engen, N7	11.2	Е
	66 000 l	Engen, Atlantis	11.5	NE
	37 000 l	Engen, Dassenberg	12.1	NE
	66 000 l	Shell, Atlantis	13.8	NNE
	69 000 l	Caltex, Atlantis	14.1	NNE
	23 000 l	Exel, Atlantis	11.6	NNE
	69 000 l	Engen, Parklands	15.1	SSE
	50 000 l	BP, Sandown	16.6	SSE

Table 5.7.30 Hazardous Substances Stored in the Site Vicinity: Diesel

Substance	Inventory	Facility/ Location	Distance (km)	Direction
Diesel	14 000 ℓ	KNPS	-	-
	23 000 ℓ	Caltex, Melkbosstrand	6.0	S
	23 000 ℓ	Sasol, Melkbosstrand	6.2	SSE
	46 000 l	Total, Melkbosstrand	6.9	SSE
	16 000 ℓ	Apollo Bricks	7.6	NE
	59 400 000 l	Ankerlig OCGT	9.8	NNE
	23 000 ℓ	BP, Atlantis	10.8	NNE
	46 000 l	Engen, N7	11.2	Е
	23 000 ℓ	Engen, Atlantis	11.5	NE
	23 000 ℓ	Exel, Atlantis	11.6	NNE
	23 000 ℓ	Engen, Dassenberg	12.1	NE
	20 000 ℓ	Vissershok Waste Site	13.5	SE



Substance	Inventory	Facility/ Location Distance (km)		Direction
	4 454 ℓ	FFS, Vissershok	13.5	SE
	44 000 ℓ	Shell, Atlantis	13.8	NNE
	14 000 ℓ	Caltex, Atlantis	14.1	NNE
	23 000 ℓ	Engen, Parklands	15.1	SSE
	20 000 ℓ	BP, Sandown	16.6	SSE

Table 5.7.31
Hazardous Substances Stored in the Site Vicinity: LPG

Substance	Inventory	Facility/ Location	Distance (km)	Direction
LPG	18 kg	NSRI, Melkbosstrand	5.8	S
	18 kg	Caltex, Melkbosstrand	6.0	S
	180 kg	Sasol, Melkbosstrand	6.2	SSE
	2 t	Total, Melkbosstrand	6.9	SSE
	527 kg	FFS, Vissershok	13.5	SE
	360 kg	Engen, Parklands	15.1	SSE
	360 kg	BP, Sandown	16.6	SSE

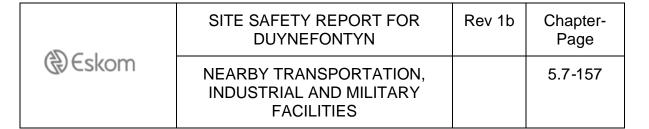
Table 5.7.32
Hazardous Substances Stored in the Site Vicinity: Other

Substance	Inventory	Facility/ Location	Distance (km)	Direction
Oxygen	11.5 kg	KNPS	-	-
Acetylene	8.5 kg	KNPS	-	-
Carbon Dioxide Gas	31.3 kg	KNPS	-	-
Liquid Carbon Dixioide	31.1 kg	KNPS	-	-
Nitrogen	11.0 kg	KNPS	-	-
Propane Butane	48 kg	KNPS	-	-
Helium	1.51 kg	KNPS	-	-
Nitrogen-oxide	31.3 kg	KNPS	-	-



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Substance	Inventory	Facility/ Location	Distance (km)	Direction
Air Dry	8.5 kg	KNPS	-	-
Argon UHP	17.4 kg	KNPS	-	-
Argon High Purity	3.5 kg	KNPS	-	-
Argonmethane	Unknown	KNPS	-	-
Hydrogen(3%)/Nitrogen(97%)	60.0 ℓ	KNPS	-	-
Hydrogen(10%)/Nitrogen(90%)	60.0 ℓ	KNPS	-	-
Hydrogen (100%)	60.0 ℓ	KNPS	-	-
Technical Air	8.5 kg	KNPS	-	-
Helium, instrument grade	10.0 ℓ	KNPS	-	-
Hydrogen, instrument grade	10.0 ℓ	KNPS	-	-
Ammonia	3 000 kg	KNPS	-	-
Caustic	23 227 kg	KNPS	-	-
Sulphuric Acid	47 603 kg	KNPS	-	-
Coal	860 t	Apollo Bricks	7.6	NE
	1 260 ℓ	Apollo Bricks	7.6	NE
Oil	700 ℓ	Vissershok	SE	13.5
	2 036 ℓ	FFS, Vissershok	SE	13.5
Hydrochloric acid	1 500 ℓ	Vissershok	SE	13.5
Glycerol	40 000 l	Vissershok	SE	13.5
Acetylene	8.6 kg	FFS, Vissershok	SE	13.5
Argon	36 kg	FFS, Vissershok	SE	13.5
Toluene	400 ℓ	FFS, Vissershok	SE	13.5
Benzene	20 ℓ	FFS, Vissershok	SE	13.5
Hexane	20 ℓ	FFS, Vissershok	SE	13.5
Acetone	20 ℓ	FFS, Vissershok	SE	13.5
50:50	252 ℓ	FFS, Vissershok	SE	13.5
LO10	300 ℓ	FFS, Vissershok	SE	13.5
FHO	278 ℓ	FFS, Vissershok	SE	13.5
FOB	132 ℓ	FFS, Vissershok	SE	13.5
Naptha	59 ℓ	FFS, Vissershok	SE	13.5
Paraffin	192 ℓ	FFS, Vissershok	SE	13.5



Substance	Inventory	Facility/ Location	Distance (km)	Direction
LSMFO	352 ℓ	FFS, Vissershok	SE	13.5
IF070/80/F06	380 ℓ	FFS, Vissershok	SE	13.5
MIBK	66 l	FFS, Vissershok	SE	13.5
	70.0 ℓ	KNPS	-	-
	1 500 kg	Witzands WTW	5.73	N
Chlorine	1 500 kg	Silwerstroom WTW	12.04	NNW
	400 kg	Melkbosstrand WWTW	4.9	SE
	400 kg	Wesfleur WWTW	9.00	NNE
Sulphuric Acid	18 – 20 t	Witzands WTW	5.73	N
Propane	22.4 m ³	Ankerlig OCGT	9.8	NNE
Un-organic fertiliser	813 t	Farms located in the site vicinity	8.4 – 16.0	NE - SE
Organic fertilizer	586 t	Farms located in the site vicinity	8.4 – 16.0	NE - SE

5.7.13.10 Potential Hazardous Substances Planned to be Stored Off-site in the Site Vicinity

A gas-to-power facility is planned in the Atlantis industrial area on a 38.7 ha site (9.0 km north-northeast). It is estimated that one 10 000 m³ storage tank for the storage of diesel, three 10 m³ tanks for the storage of Hydrogen and three drums of 925 kg each for the storage of chlorine will be installed on-site, as well as one 20 m³ tank for the storage of Anhydrous ammonia (Planning Partners, 2020i).

The Sasol service station in Melkbosstrand (6.2 km south-southeast) is planning to increase the amount of LPG stored on-site. There will be one bulk 50 m³ LPG vessel supplying LPG to the centrally located filling area. LPG cylinders will be stored in two storage areas, a 5 t storage area and a 10 t storage area. It can be noted that the largest potential Boiling Liquid Expanding Vapour Explosion is limited to an area around the service station site that reaches to approximately 5.8 km south-southeast of the Duynefontyn site (Planning Partners, 2020i).

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5.7.13.11 Hazardous Substances Expected to be Stored at the Duynefontyn Site

Eskom has received permission for the construction of a Transient Interim Storage Facility, to be located within the Security Protected Area of the KNPS, for the temporary storage of used nuclear fuel. The facility will consist of concrete pad(s) within a site footprint of approximately 12 800 m² and will be designed to accommodate the storage of not more than 160 casks up to the end of the operational life of the KNPS (2044, including an additional 20 years of life extension) (Planning Partners, 2020i) (Eskom, 2018).

The volumes of the expected bulk chemicals expected to be used and stored on the site by the new nuclear installation(s) have not been defined as yet and will be considered in the Safety Analysis Report for new nuclear installation(s) in the next licensing stage. However, based on the consistent Environmental Impact Assessment (EIA) data set (see *Appendix D*) and assuming a 30-day supply with standard tanks, the preliminary expected bulk chemical inventories were estimated and are presented in *Table 5.7.33*. These bulk chemical inventories will need to be calculated once the engineering design for the nuclear installation(s) is in an advanced state (Planning Partners, 2020i).

Table 5.7.33
Bulk Chemicals Expected to be Stored at the Site

Component	Inventory	Notes
Chlorine	5 x 100 t	EIA consistent data set and assumed 30-day supply (cleaning of water)
Diesel	3 × 230 m ³	EIA consistency data set
Hydrogen	8 × 30 Nm³	EIA consistency data set
Petrol	1 × 23 m ³	Standard size underground tank
Sulphuric Acid	20 m³	Assumed
Caustic	10 m³	Assumed to be delivered as caustic flakes
Ammonia	2 × 2 t	Assumed
Sodium Hypochlorite	12 m ³ /annum	Assumed

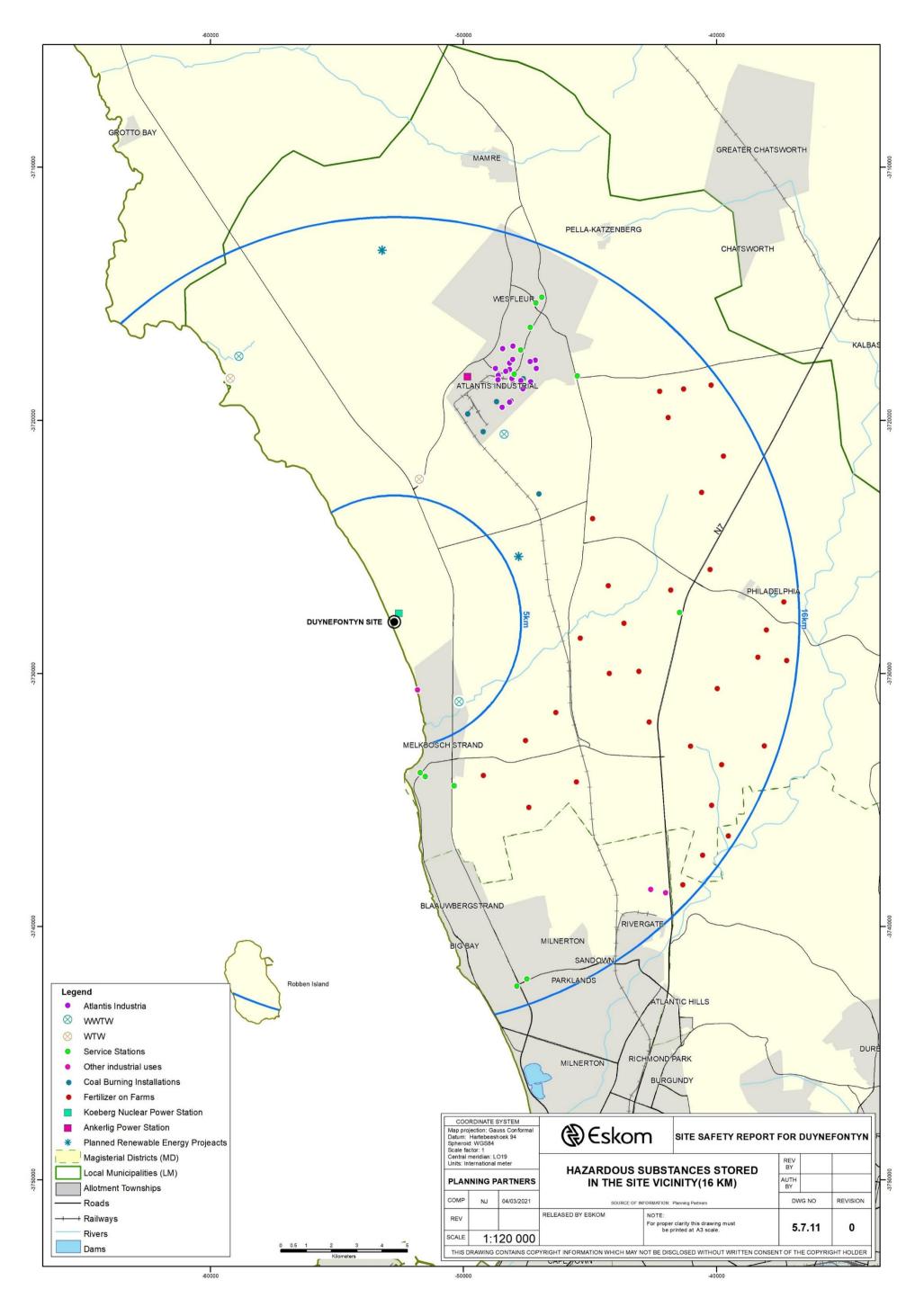
In summary, the total inventory of bulk hazardous chemicals expected at the site presented in this DSSR is preliminary. It includes materials expected to be generated or stored at the site. It is also based on assumptions of the consistent EIA data set and the KNPS experience $(2 \times 900 \text{ MWe})$. The final inventory of hazardous materials to be stored

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or to occur on-site still needs to be finalised prior to nuclear installation construction.

Since this DSSR has adopted a conservative approach, and therefore reports on the worst-case scenario in terms of potential hazards associated with on-site activities e.g. chlorine required to clean water, the volumes of chemicals reported on may seem high. As with the KNPS, where the treatment of sea water is done using electrolysis, there are alternative technologies available or the option of on-site production of hydrogen for instance, that may be addressed in the detailed design which may result in smaller Screening Distance Values (SDVs).

As discussed under <u>Subsection 5.7.10.5</u> above, a 75 MW solar photovoltaic energy generation facility is planned on a farm 4.5 km east northeast of the site. The rechargeable lithium batteries that will be used utilise cathodes that contain lithium in the crystal structure of the cathode coating and/or lithium salts in an electrolyte that is in the batteries. These batteries can be highly flammable or merely combustible if involved in an external fire, as well as the vented gases containing toxic components. However, the risk assessment that was performed as part of the solar park project, concluded that the worst conceivable accident will be limited to an area 50 m (explosion debris) and 300 m (toxic smoke) around the batteries (Cornerstone, 2021).



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5.7.14 Transportation of Hazardous Substances in the Site Vicinity

Hazardous substances transported in the site vicinity were evaluated and the results are presented in this subsection. The investigation focused on potential sources of risk transported in the site vicinity in accordance with international best practice (U.S. Nuclear Regulatory Commission, 2001), (U.S. Nuclear Regulatory Commission, 1997), (U.S. Nuclear Regulatory Commission, 2007) and the approach to the areas of investigation is described in <u>Subsection 5.7.4.1</u>. Sources of hazards that may originate further afield, but are transported through the site vicinity, were also considered. Transportation by Road and Rail

The information discussed in this subsection was obtained from a survey of the major chemical suppliers and transport contractors that operate in the site vicinity and site region. The survey was conducted during 2017 and 2018 and requested information for the most recent 12 months period. Chemical loads transported through the area invariably consist of a variety of chemicals delivered to different customers along the West Coast.

In terms of roads, the Otto du Plessis, R27, N7 Freeway and the Melkbosstrand and Atlantis link roads (R307) are most affected by these activities.

a) Petroleum, Diesel and Liquefied Petroleum Gas (LPG)

Most of the major petroleum companies are active in the area. Delivery of petroleum products is done by the companies' own fleet or by contracted freight companies. The R27 Road is the most affected route, with the bulk of the products destined for Atlantis, Vredenburg, Saldanha and the farming communities in these areas (Planning Partners, 2021c).

Most of the products are dispatched from the Astron oil refinery in Montague Gardens, while a portion originates in Paarden Eiland. The main products concerned are petroleum, diesel, power- and illuminating paraffin, LPG, heavy furnace oil, marine fuel oil, jet fuel, coolants, lubricants and greases (Planning Partners, 2021c).

The volumes and frequencies of consignments are demand-dependent. A typical load of petroleum and/or diesel consists of 35 000 ℓ , transported in articulated vehicles, which can transport both fuels in one trip. The fuel is delivered to various service stations in the site vicinity. During 2017/2018, for a 12 month period, the largest petrol and/or diesel tanker volume transported was 40 000 ℓ . On average, 66 tankers transported a

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combined load of petroleum and diesel on the R27 Road per week. In addition, 52 tankers carried a combined load of petroleum and/or diesel on the N7 Freeway per week. A further 12 trips were undertaken by tankers transporting a combined load of petrol and diesel to service stations located in Atlantis, using either the R307 Road or the R304 Road. Smaller amounts of petrol and diesel are also transported to various industrial facilities in Atlantis along these two roads (Planning Partners, 2021c).

The Ankerlig Open Cycle Gas Turbines receives diesel by road tankers, which are offloaded in dedicated areas. A maximum of nine tankers can offload diesel at a time at Ankerlig (Planning Partners, 2021c).

On average, 8 trips of LPG are transported along the R27 Road and only 1 trip along the N7 Freeway per week. The maximum load of LPG on these trips is 25 t. In addition, LPG is transported to service stations and industrial facilities in Atlantis, using either the R307 Road or the R304 Road. A summary of all hazardous substances transported by road in the site vicinity is listed in *Table 5.7.35* (Planning Partners, 2021c).

Petroleum and diesel are also transported to the KNPS. Volumes of petroleum and diesel transported to the KNPS for the period 2011 to 2018 are provided in <u>Table 5.7.34</u> (Planning Partners, 2021c). The R27 Road and the main KNPS access road are used as transportation route.

Table 5.7.34
Petroleum and Diesel Transported to KNPS

Year	Petroleum (ℓ)	Diesel used to supply Boilers (ℓ)	Diesel used to supply Generators (ℓ)
2011	220 177	243 974	68 016
2012	195 400	89 038	57 681
2013	303 839	160 164	72 525
2014	189 325	142 232	80 025
2015	217 656	191 300	78 699
2016	265 713	134 749	78 547
2017	241 042	130 433	75 961
2018	179 225	307 236	75 017

Note that the volumes of petroleum and diesel transported to the KNPS

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during 2011 and 2018 are significantly higher than the volumes transported during 2004 and 2011 reported on in the previous DSSR Report (Eskom, 2015).

b) Other Chemicals

Deliveries of other hazardous substances take place on demand and therefore vary according to customer demand. Detailed information on the frequency and volumes of these substances can therefore not be provided (Planning Partners, 2021c).

One transport company reported that they transport, on average, one consignment of 42 000 ℓ of Jet-A1 aviation fuel along the R27 Road per month. The same company transports, on average, one consignment of 38 000 ℓ of bunker fuel along the R27 Road per week (Planning Partners, 2021c).

Two other transport companies reported to transport corrosive and flammable substances along the R27 Road, but the frequency and volumes vary. On average, the maximum load is 7 t (Planning Partners, 2021c).

Propane is received at the Ankerlig OCGT approximately once per month in 20 m³ tankers (Planning Partners, 2021c).

Numerous hazardous chemicals are also transported to the KNPS, which are listed in <u>Table 5.7.35</u> (Planning Partners, 2021c).

c) Explosives and Ammunition

The transport of all explosives other than those for military purposes requires a license from the Chief Inspector of Explosives: Western Cape. According to the Commander: Explosives Control, the quantities of explosives transported in the site vicinity is limited per day. Transport permits are granted on an *ad hoc* basis (Planning Partners, 2021c).

The Commander: Explosives Control has confirmed that any quantity of explosives transported will be within the prescribed limits to be transported. Several other protocols are in place, such as the blasting record prescribed by relevant regulations, which ensures the proper control over these explosives. The Commander has assured that any permitted transportation of explosives will not create any danger to a National Key Point, such as the KNPS. Before permits are issued, the blasting company must provide a blast plan and when any blasting is

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intended within 500 m of any other institution's property, such as overhead power lines, Telkom lines, etc, permission letters from that institution must be provided and also permission from the local authority, such as municipalities (Planning Partners, 2021c).

With imports and exports, tons of explosives are transported daily on the national routes. These routes are approved to ensure that explosives do not pose a risk to National Key Points without the necessary role players being warned of the possible risks (Planning Partners, 2021c).

There are numerous quarries located in the site region, but no operational quarries are located in the site vicinity. Since quarry operations may involve the use of commercial explosives, these explosives could be transported within the site vicinity. As mentioned above, the maximum quantity of commercial explosives will never exceed a quantity that may impose a danger to a National Key Point. The survey of the transportation of hazardous substances identified two blasting companies in the quarry industry. One company transported 50 kg of emulsion explosives on a single trip along the N7 Freeway. The other company transported a total of 15 t of emulsion explosives along the same route during 2018 (Planning Partners, 2020a).

d) Hazardous Waste

Hazardous waste is transported to the Vissershok waste disposal site and the Enviroserv Waste Management Facility (13.5 km southeast). The transported and disposed waste includes industrial, medical and domestic waste, which includes inorganic waste, sewage sludge, waste oils, asbestos-containing materials, medical and mineral waste (Planning Partners, 2021c).

The waste transported to Vissershok approaches the site from the N7 Freeway, as well as by railway line from Atlantis. Vissershok received a total of 17 617 t of hazardous waste in 2017 and Enviroserv received a total 46 529 t (Metabolism of Cities, 2018) of hazardous waste during the 2015/2016 financial year (Planning Partners, 2021c).

e) Radioactive Waste

Shipments of radioactive waste from the KNPS to Vaalputs occur within 5 concrete drums or 120 steel drums in one shipment. There is no specific schedule for these activities, as they are influenced by refuelling outages and logistics and have on average, taken place at least twice per year with varying quantities. The transportation route to Vaalputs is via

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the R27 Road, R315 Road and the N7 Freeway (GIBB, 2012). The radiation category of the waste ranges between C1 and C4 (low to medium level) (Eskom, 2020). Volumes recorded for 2010 to 2018 are (Planning Partners, 2021c):

- 2010: 0 (No shipments were made due to the establishment of the National Radioactive Waste Disposal Institute and the original contract that was not valid for disposal with the South African Nuclear Energy Corporation);
- 2011: 663 m³;
- 2012: 120 m³;
- 2013: 1 649 m³:
- 2014: 1 027 m³;
- 2015: 1 440 m³:
- 2016: 707 m³;
- 2017: 528 m³;
- 2018: 88 m³.

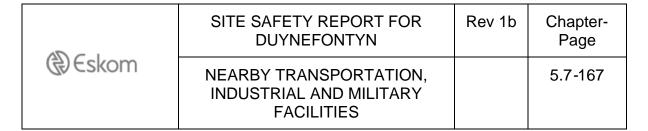
f) Summary of Hazardous Substances Transported by Road and Rail

<u>Table 5.7.35</u> lists the main components, destination/source, quantities and frequencies of hazardous substances that were transported by road in the site vicinity, as identified through the survey of the transportation of hazardous substances (Planning Partners, 2021c). It can be assumed that these substances are transported either via the R27 Road (2.3 km east), which represents the nearest road to the site, or the N7 Freeway (11 km east).

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Table 5.7.35 Hazardous Substances Transported by Road in the Site Vicinity

Туре	Destination / Source	Volume (ℓ, kg or t)	Frequency
Petroleum	Milnerton, KNPS, Atlantis, Saldanha, service stations	Maximum 40 000 ℓ per truck	Daily
Diesel	Milnerton, KNPS, Atlantis, Saldanha, service stations	Maximum 40 000 ℓ per truck	Daily
LPG	Milnerton, Atlantis, service stations	Maximum 25 t	Daily
Jet-A1 aviation fuel	Milnerton, CTIA and airfields	Maximum 42 000 ℓ per truck	Monthly
BGO bunker fuel	Port of Cape Town, Saldanha	Maximum 38 000 ℓ per truck	Weekly
Hydrochloric acid	Atlantis	1 500 ℓ per truck	Yearly
Hydraulic and other oils Glycerol Thinners White spirit Ethanol PGMME Formic acid Paraffin Other acids Cement Iron oxide Acetone Sodium Hypochlorite Resin Paper dye Ammonia	Atlantis	16 880 ℓ 40 000 ℓ 372 ℓ 2 265 ℓ 2 760 kg 2 382 kg 2 400 kg 49 025 ℓ 5 500 ℓ 60 t 1 t 210 ℓ 100 ℓ 5 t 15 t 1 300 ℓ	As required
Chlorine	WTWs, WWTWs	8 400 kg	As required
Ammonium Hydroxide Sulphuric Acid	KNPS	12 t 25 t	2 per year 4 per year



Туре	Destination / Source	Volume (ℓ, kg or t)	Frequency
Garlon Actipron Roundup Arsenal Touch Down Plus Simazine Focus Ultra Weedmaster	KNPS	Combined total of 500 ℓ per year	2 per year
Acids, alkali, oxidising agents, solvents, Chlorine, Sulphur Dioxide, Ammonia	KNPS, Atlantis	2 to 15 t of multi-loads	1 per day
Sodium Hydroxide	KNPS	25 t	8 per year
Styrene	Atlantis		
Waxy oils	Atlantis		
Explosives	Cape Town, Piketberg	Permit dependent	Ad hoc
Radioactive waste	Vaalputs Waste Disposal Site	560 ℓ	Annually

g) Fertilizer

As part of an agricultural production survey that was undertaken in the site vicinity during 2018, farm owners and managers were asked to report on fertilizer used and stored on farms in the site vicinity. The survey revealed that a few farms did receive fertilizer, from Malmesbury, Wellington or the CMA. The routes used to transport fertilizer in the site vicinity would be the N7 Freeway, R27, R304, R307 and Klein Dassenberg roads. Types of fertilizer included organic, Monoammonium Phosphate (MAP), Calcium Ammonium Nitrate (KAN), Limestone Ammonium Nitrate (LAN) and various mixtures of Nitrogen, Phosphorus and Potassium. Volumes of fertilizer recorded to be transported per year ranged between 0.03 and 80 t (Planning Partners, 2020d).

5.7.14.2 Transportation by Marine Vessels

Shipping hazards include oil spills, lost containers and debris from wrecked vessels, which could affect the nuclear installation(s) cooling water intake system, accidental explosions, which could cause a pressure or shock wave that could cause structural damage, and the release of toxic gases, which could affect the nuclear installation(s) from a corrosivity or asphyxiation perspective.

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A release of oil at sea can result from shipping incidents caused by collisions between two vessels, or from hull failure due to heavy weather, or the grounding of vessels on offshore reefs or the coastline. The risk from these occurrences is linked to the proximity of the nuclear installation(s) to vessel traffic zones. Tanker traffic separation schemes are in force in the site region, with westbound traffic having to keep a distance of 37 km (20 nmi) and eastbound traffic having to keep a distance of 46 km (25 nmi) off certain capes. This means that the minimum distance that traversing tankers, which do not call at the Port of Cape Town, can pass from the proposed site is some 96 km (52 nmi) in summer (16 October to 15 March) and 87 km (47 nmi) in winter (16 March to 15 October) (Planning Partners, 2021c).

The Cape of Good Hope is a significant transit route for global oil tanker shipments. In 2015, crude oil transit around the Cape accounted for roughly 9 per cent of global maritime trade (5.1 million barrels per day). It was estimated that about 5.8 million barrels of oil per day of seaborne-traded crude oil moved around the Cape of Good Hope in both directions in 2016. According to the BP Statistical Review of World Energy, approximately 109.7 million t of crude oil were transported around South Africa during 2019. These quantities of crude oil were transported along the traffic separation zones off the site as described above (Planning Partners, 2021c).

In 2016, 3.9 million barrels per day of total oil (crude oil and refined products) transited the Suez Canal in both directions. Theoretically, these oil movements could pass the Cape of Good Hope, should the Suez Canal be closed (Planning Partners, 2021c).

Marine vessels are expected to carry their own bunker fuel for their own propulsion. Typical volumes of bunker fuels carried by these large vessels off the coast of the site are presented in <u>Table 5.7.36</u> (Planning Partners, 2021c).

Table 5.7.36
Vessel Types and Typical Fuel Volumes Carried

Vessel Type Typical Fuel Volumes Carried	
Bulk carrier	4 – 7 000 t
General cargo vessel	± 3 000 t
Tanker	4 – 7 000 t
Container vessel	5 – 11 000 t

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Ships travelling past the site may carry other hazardous substances that may pose a threat to the nuclear installation(s). These substances could include liquefied flammable gas, Ammonia, Ammonium Nitrate, LPG/propane and petroleum. The amount of substance is determined by the ship type, which is custom-built for each owner. Each tank of these ships is required to have a number of design safety measures to prevent fires and explosions. These measures include tank washing and pressure/vacuum and relief valves (Planning Partners, 2021c).

5.7.14.3 Transportation by Aircraft

In considering hazardous substances transported by air, the investigation identified and characterised all aircraft types that would pass in or near the site vicinity. The major hazard to the proposed nuclear installation(s) would entail the aviation fuel onboard. <u>Table 5.7.6</u> in <u>Subsection 5.7.5.1</u> provides the types and frequency of aircraft that fly within the 80 km radius of the site (arrive and depart at CTIA), as well as the typical volume of aviation fuel carried per aircraft type (Planning Partners, 2021c).

5.7.14.4 Transportation by Pipeline



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⁶ MMTPA = million metric tonnes per annum.

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Figure 5.7.16 Extract of Transnet National Pipeline Network

Currently, jet fuel is trucked directly from the Astron Refinery to CTIA. With increasing demand and supply in the long-term, a pipeline may be economically viable. A new pipeline from either the Astron Refinery in Milnerton or the Port of Cape Town to CTIA is therefore proposed, following the alignment of the N7 and N2 freeways. Note that the proposed pipeline is located outside of the site vicinity (Planning Partners, 2021c).

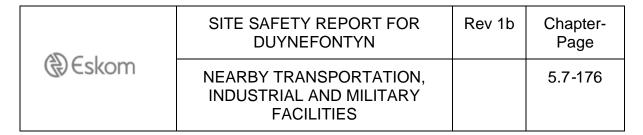
5.7.14.5 Summary of Hazardous Materials Transported in the Site Vicinity

<u>Table 5.7.37</u> summarises the hazardous substances being transported past the site, but excludes the substances being transported to and from the KNPS.

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Table 5.7.37 Summary of Hazardous Materials Transported Past the Site, Excluding Transportation to and from the KNPS (2018)

Substance	Destination/Source	Transport Route	Nearest Distance to Site	Maximum Inventory (ℓ or t)	Frequency (Daily, Weekly, Monthly, Annually)
Petroleum	Melkbosstrand, Atlantis, Saldanha	R27, Otto du Plessis	2.3 km	40 000 l	Daily
	To the north and to Saldanha	M14, N7	11 km	40 000 ℓ	Daily
	Atlantis Industria	R304, R307	2.6 km	40 000 ℓ	Daily
Diesel	Melkbosstrand, Atlantis, Saldanha	R27, Otto du Plessis	2.3 km	40 000 ℓ	Daily
	To the north and to Saldanha	M14, N7	11 km	40 000 ℓ	Daily
	Atlantis	R304, R307	2.6 km	40 000 l	Daily
Liquid Paraffin Gas	Melkbosstrand, Atlantis	R27, N7	2.3 km	25 t	Weekly
BGO Bunker Fuel	Port of Cape Town, Port of Saldanha	N7	11 km	38 000 ℓ	Weekly
Explosives	Quarries, road works	R27, N7	2.3 km	Varies	Ad hoc
Hydraulic and other oils	Atlantis Industria	R27, N7, R307, R304	2.3 km	16 880 ℓ	Monthly
Glycerol	Atlantis Industria	R27, N7, R307, R304	2.3 km	40 000 ℓ	Monthly
Thinners	Atlantis Industria	R27, N7, R307, R304	2.3 km	372 ℓ	Monthly
White spirit	Atlantis Industria	R27, N7, R307, R304	2.3 km	2 265 ℓ	Monthly
Ethanol	Atlantis Industria	R27, N7, R307, R304	2.3 km	2 760 kg	Monthly
PGMME	Atlantis Industria	R27, N7, R307, R304	2.3 km	2 382 kg	Monthly
Formic acid	Atlantis Industria	R27, N7, R307, R304	2.3 km	2 400 kg	Monthly
Paraffin	Atlantis Industria	R27, N7, R307, R304	2.3 km	49 025 ℓ	Monthly
Other acids	Atlantis Industria	R27, N7, R307, R304	2.3 km	5 500 ℓ	Monthly
Cement	Atlantis Industria	R27, N7, R307, R304	2.3 km	60 t	Monthly
Iron oxide	Atlantis Industria	R27, N7, R307, R304	2.3 km	1 t	Monthly



Substance	Destination/Source	Transport Route	Nearest Distance to Site	Maximum Inventory (ℓ or t)	Frequency (Daily, Weekly, Monthly, Annually)
Acetone	Atlantis Industria	R27, N7, R307, R304	2.3 km	210 ℓ	Monthly
Sodium Hypochlorite	Atlantis Industria	R27, N7, R307, R304	2.3 km	100 ℓ	Monthly
Resin	Atlantis Industria	R27, N7, R307, R304	2.3 km	5 t	Monthly
Paper dye	Atlantis Industria	R27, N7, R307, R304	2.3 km	15 t	Monthly
Ammonia	Atlantis Industria	R27, N7, R307, R304	2.3 km	1 300 ℓ	Monthly
Chlorine	WWTWs and WTWs	R27, R307	2.3 km	8.4 t	As required
Fertiliser	Farms in the site vicinity	N7, R27, local farm roads	2.3 km	80 t	Monthly
Aviation fuel	Various airfields	R27	2.3 km	42 000 l	Monthly
	CTIA	Overhead flight paths	142.5 km	155 040 ℓ	Daily
Crude Oil	Westbound	20 nmi westbound sea traffic route	37.0 km	79.5 × 10 ⁶ t	Annually
Crude Oil	Eastbound	25 nmi eastbound sea traffic route	46.3 km	30.2 × 10 ⁶ t	Annually

5.7.14.6 Hazardous Substances Expected to be Transported to and from the Duynefontyn Site

An evaluation estimated the frequency and load size of bulk chemicals expected to be transported to the Duynefontyn site. The evaluation is based on the consistent EIA data set, presented in <u>Appendix D</u> and the KNPS experience. The estimated road transport frequencies of these hazardous materials are summarised in <u>Table 5.7.38</u> (Planning Partners, 2021c).

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Table 5.7.38 Estimated Road Transport Frequencies of Hazardous Chemicals to the Site

Component	Annual Consumption	Transport Route	Transport Frequency per Year	
Chlorine*	5 275 t		530 × 10 t	
Diesel**	263 970 l		14 × 20 000 ℓ	
Hydrogen*	262 800 Nm³	D07.D	Produced on-site***	
Petrol**	169 325 l	R27 Road and via alternative	9 × 20 000 ℓ	
Sulphuric Acid**	286 t	access routes	16 × 18 t	
Caustic**	139 t		Assumed to be delivered as caustic flakes	
Ammonia**	36 t		18 × 2 t	

- * Data set values consistent with EIA (2008) (see Appendix D).
- ** 2007 consumption at the KNPS.

The final inventory of hazardous materials to be transported to the site will need to be reviewed, updated and finalised once the final number and type of nuclear installation(s) to be constructed on the site have been confirmed.

5.7.15 Main Activities Relevant to Nuclear Installation Safety

Activities relevant to nuclear installation safety fall into two main categories: (i) external human-induced events that could pose a threat to the nuclear installation(s) and (ii) infrastructure that is necessary for emergency planning.

External human-induced events include aircraft hazards, road and rail hazards, shipping hazards, pipeline hazards, external fires, electromagnetic interference, radiological hazards, high energy rotating equipment and hazardous substances stored or transported near the nuclear installation site.

The following subsections discuss the external hazards that were identified which could pose a threat to nuclear installation safety (see *Drawing 5.7.13*).

^{***} May need to be transported to or around the site and is therefore included in the list of hazardous chemicals transported to the site.

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5.7.15.1 Identification of Sources of Potential External Hazards

As set out in <u>Subsection 5.7.4.1</u>, the evaluation and characterisation of potential sources (stationary and mobile) of hazards in the site vicinity were conducted for the purpose of this DSSR. The basis of the evaluation is the characterisation of nearby transportation, industrial and military facilities and activities presented in this subsection. The evaluation also focused on the identification of potential external hazards associated with nearby industrial, transportation and military facilities, as well as accident statistics and their consequences (International Atomic Energy Agency, 2023), (International Atomic Energy Agency, 2021).

The evaluation of the potential hazardous events relevant to the planned nuclear installation(s) on the site is provided in *Chapter 6*.

a) Stationery Sources of External Hazards

i) Industrial Activities

The Atlantis industrial area (9 km north-northeast) contains hazardous industrial activities, including the Ankerlig OCGT power station. The City-owned Vissershok and the privately-owned Vissershok Waste Management Facility/Enviroserv waste disposal sites also receive and contain hazardous materials. Scattered industries in the site vicinity include one large brickfield and six coal burning facilities.

There are plans to develop further industrial areas in the site vicinity as infill development at Atlantis and Doornbach, as well as new risk industrial development west of Vissershok (Frankendale risk industrial development).

There are stationary sources of risk associated with the aforementioned industrial development. Refer to **Subsections 5.7.9.2** and **5.7.9.5**.

There are no operational quarries in the site vicinity. Refer to **Subsection 5.7.9.4**.

ii) Military Activities

The only potential external source of hazards associated with military activities in the site vicinity is the military shooting range located near Atlantis (refer to M1 (7.5 km north-northeast) in <u>Drawing 5.7.10</u>), which is used for rifle training and shooting exercises. Refer to **Subsection 5.7.12.4.**

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iii) Stored Hazardous Substances

Petrol, diesel and LPG are stored at twelve filling stations located in the site vicinity, as well as at the Melkbosstrand NSRI base station, and are included in the hazard source inventories. Refer to **Subsection 5.7.13.2**.

The two water treatment works and two wastewater treatment works located in the site vicinity store limited hazardous materials, predominantly chlorine. Refer to **Subsection 5.7.13.4**.

The other stationary sources of potential hazards for the nuclear installation(s) are the hazardous materials that may be stored or occur on the site. Identification of the on-site chemical inventory in this DSSR is based on the assumptions relying on the EIA consistent data set and the KNPS experience. A final inventory will need to be compiled as part of the Safety Analysis Report for new nuclear installation(s) in the next licensing stage to specify the anticipated future bulk chemicals stored at the site.

iv) Electromagnetic Interference

Electromagnetic interference can affect the functionality of on-site electronic devices which could therefore affect operational aspects of nuclear installation(s). It can be initiated by both on-site and off-site sources.

The presence of central telecommunication installations near the site or on-site installations could give rise to specific provision being made during the design stage to mitigate against the effects of electromagnetic interference. Refer to <u>Subsection 5.7.11.7</u> which provides details on the location of telecommunication infrastructure located in the site vicinity.

v) Radiological Hazards

Nuclear fuel used to power the KNPS consists of pellets of enriched Uranium Dioxide, which are encased in 4 m long metal fuel rods. Each KNPS reactor uses approximately 157 fuel rods over a period of approximately 1.5 years, after which time approximately a third of the fuel is replaced. KNPS generates approximately 32 t of spent fuel each year (Planning Partners, 2020e).

There are three levels of waste at the KNPS, namely low-level waste, intermediate-level waste and spent fuel. Refer to <u>Subsection 5.7.13.7</u> which provides details on the storage and handling of these radioactive

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waste.

Shipments of radioactive waste from the KNPS to Vaalputs occur within 5 concrete drums or 120 steel drums in one shipment. The transportation route to Vaalputs is via the R27 Road, R315 Road and the N7 Freeway (refer to **Subsection 5.7.14.1**).

Low, intermediate and high-level waste, as well as fresh and spent fuel, originating from the new nuclear installation(s), will be handled, managed and controlled within the radiological zones of the nuclear installation(s). Some of the waste (low and intermediate level) is planned to be shipped to a disposal site at Vaalputs, following the Eskom operating procedures. The quantity of radioactive waste and fuel will depend on the number of reactors and the operating history and procedures of the new nuclear installation(s). An estimate may be based on the quantities generated by the KNPS, scaled by the ratio of power output and considering modernisation of the plant (Eskom, 2008).

vi) High Energy Rotating Equipment

The Ankerlig OCGT power station is located in Atlantis (9.8 km north-northeast) and consists of nine OCGT units. Each OCGT unit consists of one gas turbine driving an electric generator. Some of the turbine units have been fitted with dual fuel burners in anticipation of conversion to Closed Cycle Gas Turbines (Planning Partners, 2020e).

There are no wind farms located in the site vicinity (refer to <u>Subsection 5.7.10.3</u>). One wind farm is planned to be located partly in the site vicinity, northwest of Atlantis. The wind farm will consist of 14 wind turbines with a total generating capacity of 52 MW (Planning Partners, 2020e).

b) Mobile Sources of External Hazards

Potentially hazardous activities around the site could also relate to modes of transport and hazardous substances transported in the site vicinity, as well as the incidence of external fires.

i) Air Transportation

In order to determine the risk of potential aircraft crashes on the site, information on the location of airports/airfields, flight routes and traffic densities are provided in <u>Subsection 5.7.5</u> and <u>Subsection 5.7.15.1(c)</u>. The expected crash frequency (per km² per year) for the site is presented

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in **Chapter 6**.

ii) Drones

Unmanned aircraft systems (UAS) are among the major growing technologies that have many beneficial applications, yet they can also pose a significant threat (Planning Partners, 2024). A range of security concerns for nuclear facilities includes: adversary data collection, direct attacks, diversionary attacks, introduction/removal of contraband around access controls and 'wild-[UAS] chases (Solodov, 2017).

iii) Road Transportation

Petroleum, diesel and LPG are transported along the R27, Otto Du Plessis Road, R304, R307 and the N7 Freeway in the site vicinity. The majority of accidents recorded on these roads involved passenger and light commercial vehicles.

Potential vehicular accidents involving trucks transporting nuclear fuel to the site and radioactive waste from the site pose a risk to the planned nuclear installation(s). To date, no such accident has been recorded by the KNPS.

Explosives used for mainly construction purposes are transported in the site vicinity on the R27 Road and the N7 Freeway. The transport of all explosives other than those for military purposes requires a license from the Chief Inspector of Explosives (Western Cape). According to the Commander: Explosives Control, the quantities of explosive transported in the site vicinity is limited per day. Transport permits are granted on an ad hoc basis. With increased development of this area, more blasting permits could to be issued in the CMA. This will also involve an increase in the frequency of transportation thereof and possible risk to the nuclear installation(s). However, it can be noted that it has been confirmed that any permitted transportation of explosives will not create any danger to a National Key Point, such as the KNPS (Planning Partners, 2021c).

iv) Rail Transportation

The Atlantis railway goods line, the only line in the site vicinity, could pose a rail-based hazard to the planned nuclear installation(s).

v) Marine Transportation

Large quantities of crude oil are transported past the site (109.7 million t

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of crude oil were transported around South Africa during 2019). This transportation takes place on sea in the traffic separation zone located at 20 and 25 nmi off the coast (see <u>Drawing 5.7.5</u>). The majority of the marine traffic along the site consists of bulk carriers, general cargo vessels, tankers and container vessels carry between 3 000 to 11 000 t of bunker fuels.

vi) Pipeline Transportation

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The evaluation of the mobile sources of external events and associated initiating events are analysed in *Chapter 6*.

c) Aircraft Incidents and Accidents

Aircraft incidents⁷ and accidents⁸ in the site region were investigated for the 2008 to 2020 period (12 years). For this period, a total of 75 training, private, commercial and military incidents and accidents were reported in the site region. The evaluation of the historical data is presented in *Table E.1* of *Appendix E* and demonstrates that:

- most aircraft incidents and accidents involved light aircraft and helicopters;
- 60 per cent of all incidents and accidents occurred at airports and airfields;
- 14 incidents and accidents occurred in the site vicinity, all of which involved light aircraft and 11 of which occurred at either the Delta 200 or the Morningstar airfields.

In August 2016, there was a drone incident at the Duynefontyn site. Data were collected on drone incidents in the site region, for the 2016 to 2023 period (8 years). The data were obtained from the SACAA, who became the regulatory body on unmanned aerial vehicles (UAS) on 1 July 2015. In terms of regulations published in 2015 incidents involving drones must

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⁷ An aircraft incident is any event where minor damage is caused to an aircraft and without fatalities.

⁸ An aircraft accident is an event where major damaged is caused to the aircraft or fatalities are recorded.

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be reported to the SACAA where there is:

- injury or death of a person;
- damage to property;
- destruction of the UAS beyond economical repair.

For the period investigated there were only two reported drone incidents in the site region, both of which involved the loss of the drone at sea and beyond 16 km from the site (Planning Partners, 2024).

The evaluation of the data is presented in <u>Table E.2</u> of <u>Appendix E</u>

d) Road Accidents

The City of Cape Town supplied information on the occurrence of road accidents in the site vicinity. A summary of recorded accidents for the 2007 to 2017 period is presented in <u>Table 5.7.39</u>. Note that 2018 and more recent accident data are currently not available.

The analysis of the available data showed that a total of more than 26 200 accidents were recorded on roads in the site vicinity. The accidents included both minor and major accidents on low and high-speed roads. Of the total accidents, the highest number of accidents occurred on low speed urban roads within the Bloubergstrand/Table View area. The high-speed N7 Freeway and the West Coast/R27 Road contributed 6.9 per cent and 11.9 per cent to the total number of accidents, respectively.

The Mamre-Darling Road (R304) contributed a further 6.1 per cent to the total recorded accidents.

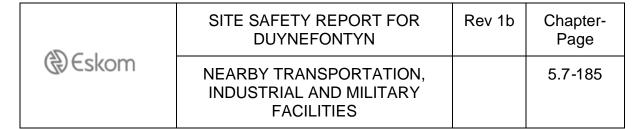
The largest proportion of accidents occurred in the low-speed suburban areas of Blouberg, Melkbosstrand and Atlantis.

Heavy commercial trucks constitute only 1.8 per cent of all accidents recorded. Of the 473 accidents involving heavy commercial trucks, 113 were recorded on the N7 Freeway, 57 were recorded on the West Coast Road/R27, which passes within 5 km of the site, and 53 accidents were recorded on the Mamre-Darling Road (R304) (refer to *Table 5.7.39*).

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Table 5.7.39 Road Accidents (2008 to 2018)

			nicle Typ	е			
Roads and	d Intersections	Truck	Light Delivery Van	Car	Minibus	Other	Total
	Number of accidents	113	436	1 056	62	146	1 813
N7 Freeway	Per cent of total accidents on this road	6.2	24.0	58.2	3.4	8.1	6.9
R27/West	Number of accidents	57	506	2 099	147	321	3 130
Coast Road	Per cent of total accidents on this road	1.8	16.2	67.1	4.7	10.3	11.9
Otto du Plessis	Number of accidents	20	152	704	47	150	1 073
(M14)	Per cent of total accidents on this road	1.9	14.2	65.6	4.4	14.0	4.1
Mamre-Darling	Number of accidents	53	389	960	94	116	1 612
Road (R304)	Per cent of total accidents on this road	3.3	24.1	59.6	5.8	7.2	6.1
Dassenberg	Number of accidents	6	57	194	35	19	311
Road (R307)	Per cent of total accidents on this road	1.9	18.3	62.4	11.3	6.1	1.2
Melkbosstrand	Number of accidents	6	94	267	13	43	423
Road (M19)	Per cent of total accidents on this road	1.4	22.2	63.1	3.1	10.2	1.6
Low speed urban roads	Number of accidents	5	108	493	29	112	747
within Melkbosstrand/ Duynefontein	Per cent of total accidents on this road	0.7	14.5	66.0	3.9	15.0	2.8
Low speed urban roads	Number of accidents	131	1 792	9 225	812	1 605	13 565
within Bloubergstrand /Table View	Per cent of total accidents on this road	1.0	13.2	68.0	6.0	11.8	51.8



			Vel	nicle Typ	е		
Roads and Intersections		Truck	Light Delivery Van	Car	Minibus	Other	Total
Low speed	Number of accidents	63	544	1 946	370	332	3 255
urban roads within Atlantis	Per cent of total accidents on this road	1.9	16.7	59.8	11.4	10.2	12.4
Low speed	Number of accidents	2	10	24	0	3	39
urban roads within Philadelphia	Per cent of total accidents on this road	5.1	25.6	61.5	0.0	7.7	0.1
	Number of accidents	17	97	132	17	30	293
Rural roads	Per cent of total accidents on this road	5.8	33.1	45.1	5.8	10.2	1.1
Total number		473	4 185	17 100	1 626	2 877	26 261
Percentage of to	otal	1.8	15.9	65.1	6.2	11.0	100.0

e) Rail Accidents

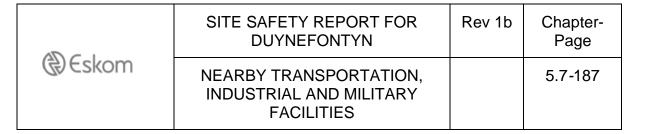
Statistics on railway incidents and accidents were obtained from the annual State of Safety Reports published by the Railway Safety Regulator of South Africa. More detailed information was requested from the regulator, but the data were classified as confidential and were not released. The most significant incidents/accidents reported by PRASA and Transnet Freight Rail are included in the earlier annual safety reports, as well as individual incident/accident reports. The later reports however only included provincial wide figures, with only a few detailed records. These are listed in *Table 5.7.40* (Planning Partners, 2020a).

Note that no incident or accident was recorded in these reports along the Atlantis railway line running through the site vicinity. The nearest accident was recorded at the Wintervogel station (22.9 km east-northeast).

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Table 5.7.40
Railway Incidents and Accidents (January 2013 to December 2018)

Date	Incident/Accident Location	Distance and Direction from Site	Type of Train	Cause	Effect
2013:			1		
10/05/2013	Koringberg	76.5 km NNE	Freight (cement, stone)	Derailment due to faulty line.	Damaged train
18/05/2013	Du Toit Station, Stellenbosch	48 km SE	Commuter	Train set on fire by arson.	Damaged train
28/05/2013	Hugenot Station, Paarl	52 km E	Commuter	Train set on fire by arson.	Damaged train
21/06/2013	Eersteriver	35 km SE	Commuter	Collision at level crossing due to driver behaviour.	Damaged motor vehicle
1/12/2013	Fisantekraal Station	28 km ESE	Unknown	Derailment due to faulty line.	Damaged locomotive
9/12/2013	Bellville Station	33 km SE	Commuter	Train set on fire by arson.	Damaged train
18/12/2013	Maitland Station	28 km S	Commuter	Train set on fire by arson.	Damaged train
2014:		•			
27/03/2014	Esplanade Station	28 km SSE	Commuter	Train set on fire by arson.	Damaged train
13/05/2014	Mutual-Langa Line	36 km SSE	Commuter	Derailment due to temporary support structure.	Damaged track
14/07/2014	Chris Hani Station	37 km SSE	Commuter	Train set on fire by arson.	Damaged train
17/06/2014	Wintervogel Station	22.9 km ENE	Freight (coal)	Derailment due to human error.	Damaged train
2/08/2014	Vlottenburg, Stellenbosch	46 km SE	Commuter	Collision at level crossing due to driver behaviour.	Damaged motor vehicles
3/08/2014	Maitland Station	28 km S	Commuter	Derailment due to wheels fault.	Damaged train
26/10/2014	Salt River Depot	28 km S	Commuter	Train set on fire by arson.	Damaged train



Date	Incident/Accident Location	Distance and Direction from Site	Type of Train	Cause	Effect		
2015:							
Note that no	Note that no significant incident or accident were recorded in the site region in the 2014/2015 State of Safety report.						
2016:	2016:						
in the site re	117 State of Safety Report did not include gion that were affected by operational of the Western Cape over this period.	e detailed locations of ind ccurrences were Bellville	cidents and accidents. Only , Bonteheuwel, Cape Town	provincial-wide figures were provident, Nyanga and Philippi. Note that no t	ed. The main recorded areas rain collisions were		
2017:							
The 2017/20	18 State of Safety Report did not include	e detailed locations of inc	cidents and accidents. Only	provincial-wide figures were provide	ed.		
2018:							
6/02/2018	Cape Town Station	28 km S	Commuter	Derailment due to loose wheel.	Unknown		
5/07/2018	Abbotsdale	30.6 km NE	Freight (unknown cargo)	Collision at level crossing due to driver behaviour.	Damaged motor vehicle		
26/07/2018	Kalbaskraal	23 km ENE	Freight (cement, stone)	Freight trains collided due to human error.	Damaged trains		

Freight (empty)

Collision at level crossing due to

driver behaviour.

Damaged motor vehicle

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23.8 km NNE

12/08/2018

Mamreweg

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f) Marine Incidents and Accidents

The Cape is a focal point for all ships traversing between the Indian and Atlantic Ocean ports and could represent a hazardous area for stranding and collision of vessels during times when the weather is hazy and, particularly in winter, characterised by mist, rain and fog (Planning Partners, 2021b).

The Port of Cape Town manages a Vessel Traffic Services Centre, which is designed to transmit information to vessels in high-density traffic areas. It promotes safer navigation, which is important since Cape Town frequently experiences bad weather or fog, which in turn, could cause accidents near the port approaches (Planning Partners, 2021b).

Shipping hazards include oil spills, lost containers and debris from wrecked vessels and accidental explosions, which could cause a pressure or shock wave. Note that the dumping at sea of any waste or other material within the coastal waters or Exclusive Economic Zone of South Africa is not allowed without a dumping permit (Planning Partners, 2021b).

Available data show that significant accidents in the vicinity of Cape Town included the sinking or grounding of the following vessels (Planning Partners, 2021b):

- The Afrikaner (1997): Fishing vessel sank off Robben Island;
- Sealand Express (19 August 2003): Container ship grounded off Milnerton – All bunker oil was removed and no significant oil pollution occurred.
- Seli 1 (5 May 2009): Coal bulk carrier grounded off Milnerton All bunker oil was removed and no significant oil pollution occurred.

In addition, the following smaller minor incidents were recorded in the site region:

- Seawin Sapphire (31 July 2008): Fishing vessel grounding off Derde Steen, Melkbosstrand due to engine problems;
- Nena J (30 August 2008): Bulker ship which experienced engine failure in False Bay – The vessel was towed to safety in Port of Cape Town.

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- Kota Permas (9 July 2010): Cargo ship lost six containers near Cape Point;
- Ocean Pride (1 January 2012): Oil tanker grounded off Green Point
 No oil or fuel spillage occurred.
- CMA CGM Africa Two (30 May 2012): Cargo ship lost two containers off Cape Point;
- MFV Eihatsu Maru (5 December 2012): Fishing vessel ran aground at Clifton Beach:
- De Nova (17 August 2015): Vessel sank off Cape Point;
- Cape Frio (13 October 2015): Fishing vessel lost engine power The vessel was towed to safety in the Port of Cape Town.

Significant oil spill incidents occurred from the following vessels:

- The Apollo Sea (22 June 1994): Bulk ore carrier sank off Cape Town, 29 nm southwest of Dassen Island, spilling 2 400 t of heavy fuel. The fuel moved in a southerly direction past the site and beached on the west coast of the Peninsula, killing many penguins in the region.
- The Treasure (23 June 2000): Bulk ore carrier sank off Cape Town, between Robben and Dassen Islands. It spilled 1 400 t of crude oil, which moved in a southerly direction past the site and beached on the Milnerton, Peninsula and Robben Island shorelines, killing many penguins in the region.
- The Cape Endurance (25 October 2002): Tug vessel pumped engine room bilges directly overboard;
- The Martinho (19 November 2003): Fishing vessel pumped approximately 300 t of marine gas oil from engine room bilges overboard;
- The Sen Ta (21 June 2005): Reefer vessel pumped oily water bilges and sludge directly overboard, which left an oil slick of approximately 4 nm long and 930 m wide.

Another major oil spill, located outside of the site region, occurred in 1983 when an oil tanker, the Castillo de Bellver spilled 252 000 t of crude oil off Saldanha (Planning Partners, 2021b).

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Minor oil spills (more than 1 000 ℓ) occurred within the Port of Cape Town from the following vessels:

- Nikko Maru No. 1 (1 September 2011): 1 500 litres of marine gas oil leaked due to incorrect transfer of oil;
- MFV Fuschia (27 March 2012): 1 000 ℓ of stern tube oil leaked;
- Cammilla (27 June 2014): 3 000 \(\ell\) heavy fuel oil during incorrect bunkering operation.

g) Marine Pollution Contingency Planning

In terms of the Marine Pollution Act (Act 6 of 1981), the Department of Transport is responsible for ensuring that the appropriate actions are taken in order to minimise the impact of discharges of harmful substances (e.g. oil) from ships, tankers or offshore installations. In terms of the South African Maritime Safety Authority Act (Act 5 of 1998), the majority of these responsibilities are transferred to the South African Maritime Safety Authority (SAMSA) (Planning Partners, 2021b).

The responsibility for combating pollution of the sea and shoreline by oil is however delegated to the Minister of the Department: Forestry, Fisheries and the Environment (DFFE). DFFE is therefore responsible for the protection and clean-up measures to be taken once oil has been released into the sea, while SAMSA's responsibilities are limited to those actions required while the oil is within the confines of the ship (Planning Partners, 2021b).

DFFE is responsible for, *inter alia*, the following (Planning Partners, 2021b):

- the co-ordination and implementation of coastal environmental protection and clean-up measures;
- control of the use of pollution combating vessels and surveillance aircraft:
- control of the use of oil spill dispersants and dispersant-spraying operations;
- compilation and maintenance of the DFFE Local Coastal Oil Spill Contingency Plans;

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• the approval of contingency plans for offshore installations in consultation with SAMSA.

SAMSA is responsible for the following (Planning Partners, 2021b):

- the overall co-ordination of the prevention and/or combating of an oil spill incident;
- the control of the technical aspects of shipping casualties;
- the supervision of oil transhipments;
- the prosecution of parties guilty of the deliberate discharge of oil;
- the compilation of contingency plans relating to the control of shipping casualties or potential casualties;
- administering the acts relating to oil pollution;
- taking charge of the legal and financial aspects relating to oil spill incidents and casualties;
- the control of the use of the standby oil pollution prevention tugs;
- the issuing of pollution safety certificates to offshore installations.

In order to structure the actions to be taken in the event of an oil spill, various plans have been compiled, each dealing with a particular aspect of the spill situation. Together they form the National Contingency Plan that consists of (Planning Partners, 2021b):

- the Master Plan;
- a Plan for Control of Shipping Casualties;
- a Plan for Combating Oil Spilled at Sea;
- local coastal plans;
- plans for independent installations.

Coastal Oil Spills Contingency Plan No. 3: Coastal Zone covers the area around the site, extending from Bokbaai in the north to Koeëlbaai in the south. The plan provides details on the required steps to be taken in case

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of an oil pollution incident, namely (i) evaluating the initial reporting of an oil spill, (ii) contacting the correct departments and affected entities (of which the KNPS is listed), (iii) determining the level of response required and (iv) the required mobilisation procedures to be followed. The plan also provides details on the required training of the bodies involved in the contingency plan. The plan forms the basis for response actions that would need to be taken if oil impacted, or was threatening to impact, the shoreline in the vicinity of the proposed site (Planning Partners, 2021b).

The Plan for Independent Installations details the response actions that are to be undertaken in the event of an oil spill at or near a specific installation. These installations include offshore oil tanker discharge facilities, oil exploration and exploitation sites, power stations and ports, harbours and yacht basins. The cooling water intake and the beaches around the water intake basin for the KNPS are identified as a protection priority in the event of an oil spill. The plan states that Eskom should be alerted immediately if an oil spill has been reported. Eskom is the responsible authority for putting into operation the Eskom Oil Spill Contingency Plan for the intake basin (Planning Partners, 2021b).

The existing plan for the KNPS would need to be expanded to include any new nuclear installation(s) and include the specific prevention and combating response actions within Plan No. 3 (Planning Partners, 2021b).

h) Pipeline Incidents

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There were no reported pipeline incidents or accidents identified during the investigation.

i) External Fires

Historical data on external fires in the site vicinity were investigated and the results are presented in this subsection. Data obtained from the City of Cape only included road names to identify the location of a fire and do

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not provide specific coordinates of the location of these fires. All roads within the site vicinity where fires were recorded are therefore included, even though a portion of the road may be located outside of the site vicinity. Since the fire incidents are not geo-referenced, these fires recorded by the City of Cape Town could not be mapped.

<u>Table F.1</u> in <u>Appendix F</u> provides information on fires that were recorded for the period January 2010 to March 2018 by the City of Cape Town fire department. Note that this is the latest data available (Planning Partners, 2024).

The fires ranged from minor vegetation fires to major vegetation and structural fires. Note that, due to the large number of occurrences, small rubbish fires, minor vegetation fires and minor structural fires that did not lead to larger fires, were excluded from this list. Also note that the City of Cape Town does not report on the extent of fires, e.g. hectares of vegetation burnt (Planning Partners, 2024).

During January 2010 to March 2018, a total of 2 159 fires were recorded by the City of Cape Town fire department. When broken down into years, the occurrences are as follows (Planning Partners, 2024):

2010: 175;

2011: 164;

2012: 209;

2013: 155:

2014: 217;

2015: 246:

2016: 462;

2017: 387:

2018: 144 (March 2018 inclusive).

A major vegetation fire occurred February 2016, which originated to the east of the West Coast/R27 Road near the KNPS entrance. The fire affected a total area of 1 800 ha, of which 640 ha was a portion of the Koeberg Nature Reserve. The KNPS facility was not directly affected

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(Eskom, 2021c).

In addition, Cape Nature also record the occurrence of extensive vegetation fires. A total of 23 extensive vegetation fires were recorded by Cape Nature in the site vicinity for the period 2010 to 2019. The details of these 23 fires are included as <u>Table F.2</u> in <u>Appendix F</u> and mapped in <u>Drawing 5.7.12</u>. The drawing illustrates the location and extent of the Cape Nature recorded extensive vegetation fires. As is illustrated for this period, all the extensive veld fires recorded by Cape Nature occurred within the area to the north and north-northwest of the Duynefontyn site and outside of the 5 km site radius, on either side of the West Coast/R27 Road. This corresponds to an area covered in predominantly shrubland vegetation. When broken down into years, the occurrences are as follow:

- 2010: 0;
- 2011: 0;
- 2012: 0;
- 2013: 0:
- 2014: 2;
- 2015: 1;
- 2016: 0;
- 2017: 0;
- 2018: 1;
- 2019
 19.

Additional data were obtained from Eskom in 2024 on fire incidents that occurred on or near the Duynefontyn site to warrant the preparation of an incident report. The data were obtained for the period 2016 to 2023. The data includes fire incidents that occurred on the site or that occurred close enough to the Duynefontyn site to warrant an incident report. A total of 14 fires were recorded over the period, which includes the large veld fire reported on above.

The details of these 14 fires are included as <u>Table F.3</u> in <u>Appendix F</u>

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and mapped in **Drawing 5.7.12**.

When broken down into years, the occurrences are as follows:

• 2016: 5 (3 on-site and 2 off-site);

• 2017: 1 (1 off-site);

2018: 0:

• 2019: 3 (3 off-site);

2020: 0;

2021: 0;

• 2022: 1 (off-site);

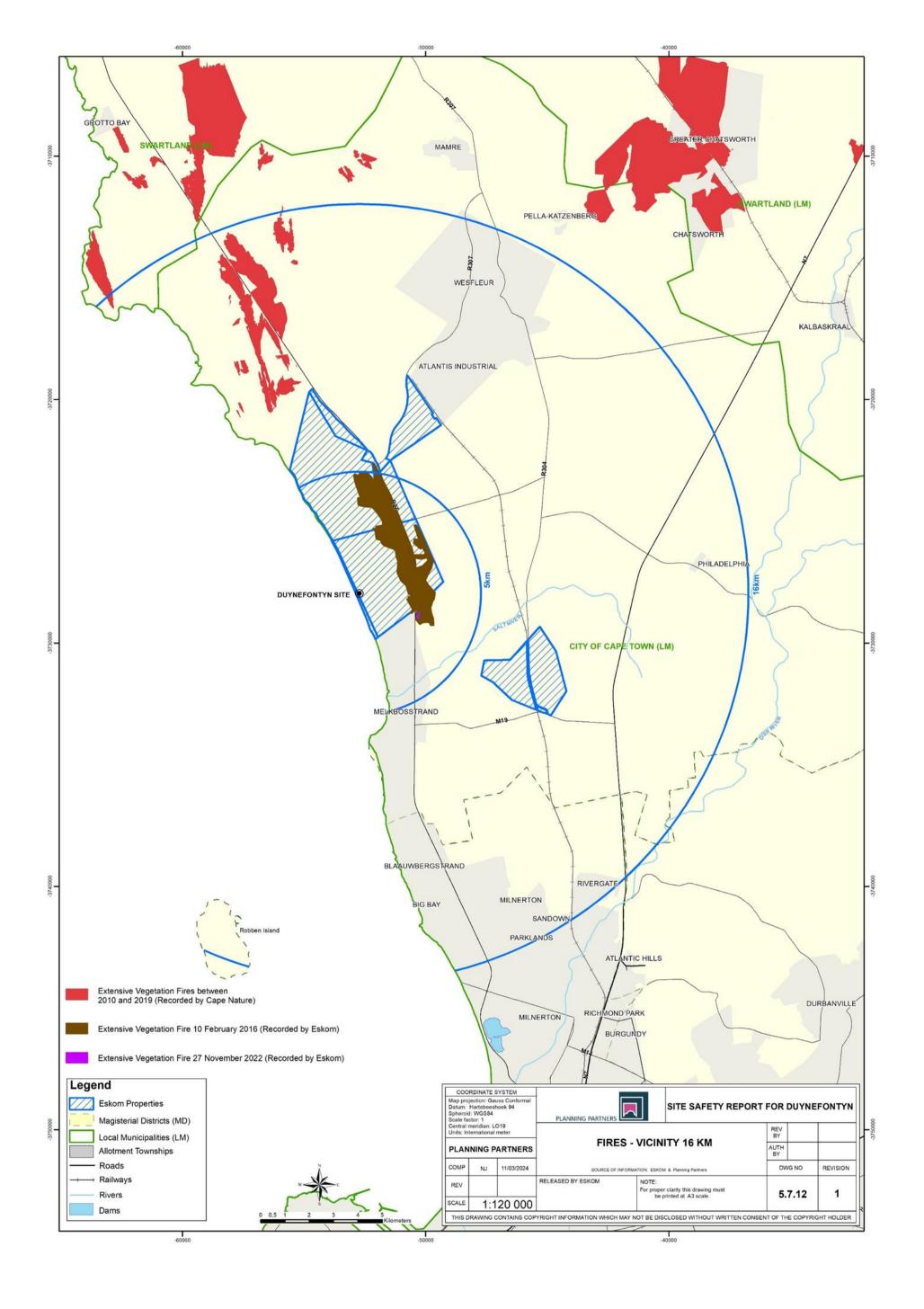
2023: 4 (off-site)

The following are potential sources that could result in fires outside of the Owner Controlled Boundary:

- Vegetation: Some vegetation types represent a potential source of veld fires. A land use survey conducted for the DSSR project recorded that the bulk of the area within a 5 km radius around the site represents shrubland, as well as the bulk of the north-northwest and north segments within the 16 km radius. The area within the 5 km radius represents the Koeberg Private Nature Reserve. The nature reserve area is characterised by mainly the Cape Flats Dune Strandveld and Atlantis Sand Fynbos, with fire proneness being high in the fynbos communities (Planning Partners, 2020j).
- Flammable Substances Stored in the Site Vicinity: A survey was undertaken of potentially flammable substances stored in the site vicinity, e.g. at service stations and industrial areas. These substances, including diesel, petrol, LPG, could result in fires should they ignite. Refer to <u>Subsection 5.7.13</u> for more details on the location, type and volumes of these flammable substances (Planning Partners, 2020i).
- Overhead Transmission Lines: Overhead transmission lines may potentially ignite bush and grass fires in unlikely events. In addition, the burning of vegetation in powerline servitudes could lead to

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uncontrolled vegetation fires if not correctly supervised. Refer to **Subsection 5.7.10.4** for more details on the location of these overhead powerlines (Planning Partners, 2020e).



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j) Human-Induced Hazard Source Map

<u>Drawing 5.7.13</u> summarises the sources of potential external hazards associated with particular activities and vehicular transportation routes used within the site vicinity and should be read in conjunction with <u>Drawing 5.7.2</u> which illustrates the location of air routes, <u>Drawing 5.7.5</u> which illustrates the location of shipping lanes and <u>Drawing 5.5.6</u> which illustrates vegetation cover that is prone to veld fires in the site vicinity.



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5.7.15.2 Considerations Important to Emergency Planning

The KNPS currently has an emergency plan in place, which complies with the evacuation time requirements for each Emergency Planning Zone (Precautionary Action Zone and Urgent Protective Action Zone). This plan will be amended to include the proposed nuclear installation(s). Emergency planning is described in detail in *Chapter 8*.

The site evaluation also considers the transportation network within the context of feasibility of emergency planning, with particular emphasis on the feasibility of potential evacuation.

Emergency services in the site region were identified as potential support services in the case of a radiological incident or accident. Their roles and duties must be defined in terms of the detailed emergency plan prior to the nuclear installation operation. This aspect of emergency planning for the site is described in detail in *Chapter 8*.

The distribution of police stations, fire stations, hospitals, ambulance services, National Sea Rescue Institute (NSRI) base stations, traffic departments and the Metro Police service in the site region is summarised in <u>Appendix G</u> and graphically illustrated in <u>Drawing 5.7.14</u> (Planning Partners, 2020k).

These emergency services include civil organisations and local representatives of state organs, as well as volunteers, that are trained in emergency response. These groups could potentially support any emergency response action in the event of a nuclear incident or accident at the nuclear installation(s). The support could include medical, law enforcement, communication and evacuation assistance.

a) Police Stations

Most of the urban settlements in the site region have a police station, except the rural settlements and towns of Gouda, Koringberg, Riebeek Kasteel and Yzerfontein. There is a total of 84 police stations located in the site region. SAPS was unwilling to disclose information on the number of staff members and emergency vehicles per police station, due to the sensitive nature thereof, but provided a total figure for the police stations in the site region. In total, the 85 police stations (including satellite stations) have 9 262 police members and 2 771 emergency vehicles on-call (Planning Partners, 2020k).

The nearest police station to the site is the Melkbosstrand Police Station,

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located on Melkbosstrand Road (2.7 km south-southeast). The only two other police stations that are located in the site vicinity are the Atlantis police station (13.7 km north-northeast) and the Philadelphia police station (14.1 km east). There is also a satellite office stationed at Big Bay (13.2 km south) (Planning Partners, 2020k). The location of police stations are presented in <u>Appendix G</u> and graphically illustrated in <u>Drawing 5.7.14</u> (Planning Partners, 2020k).

b) Fire Stations

There are 34 fire stations located in the site region, of which 30 are located in the CMA, as illustrated in **Drawing 5.7.14** and listed in **Appendix G**.

The nearest fire station, the Melkbosstrand fire station (EM2), is located 6.3 km south-southeast of the site. The station has 18 fire officials and 2 emergency vehicles. The only other fire station located in the site vicinity is the Atlantis fire station (11.3 km north-northeast) (Planning Partners, 2020k).

c) Hospitals

There are 47 public and private hospitals located in the site region. The two hospitals located in the site vicinity are the Wesfleur Hospital in Atlantis (H1, 13.8 north-northeast) with 50 beds and the Blaauwberg Netcare (H2, 14.9 km south-southeast) with 180 beds. Of the total 47 hospitals, 44 are located in the southeast, south-southeast and southern segments (Planning Partners, 2020k). Hospitals located in the site region are illustrated in *Drawing 5.7.14* and listed in *Appendix G* (Planning Partners, 2020k).

d) Ambulance Services

There are 15 ambulance services located in the site region, some having more than one facility. In total, 24 facilities are located in the site region. These services are either public or privately-owned and operated. The only ambulance facility located in the site vicinity is the Netcare 911 service (ES5), located at the Netcare Blaauwberg Hospital (H2), 14.9 km south-southeast of the site. The service has nine emergency personnel and three emergency vehicles on call (Planning Partners, 2020k). Ambulance facilities located in the site region are illustrated in **Drawing 5.7.14** and listed in **Appendix G** (Planning Partners, 2020k).

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e) Sea Rescue

The NSRI has ten coastal stations in the site region. The NSRI also has an Air Sea Rescue Unit that works together with the SA Airforce from the AFB Ysterplaat (ES13, 25.8 km south-southeast). The base stations are illustrated in **Drawing 5.7.14** and listed in **Appendix G**. The NSRI assists in all types of sea rescue operations and has the capacity to reach water users in the event of a terrestrial or nautical emergency (Planning Partners, 2020k).

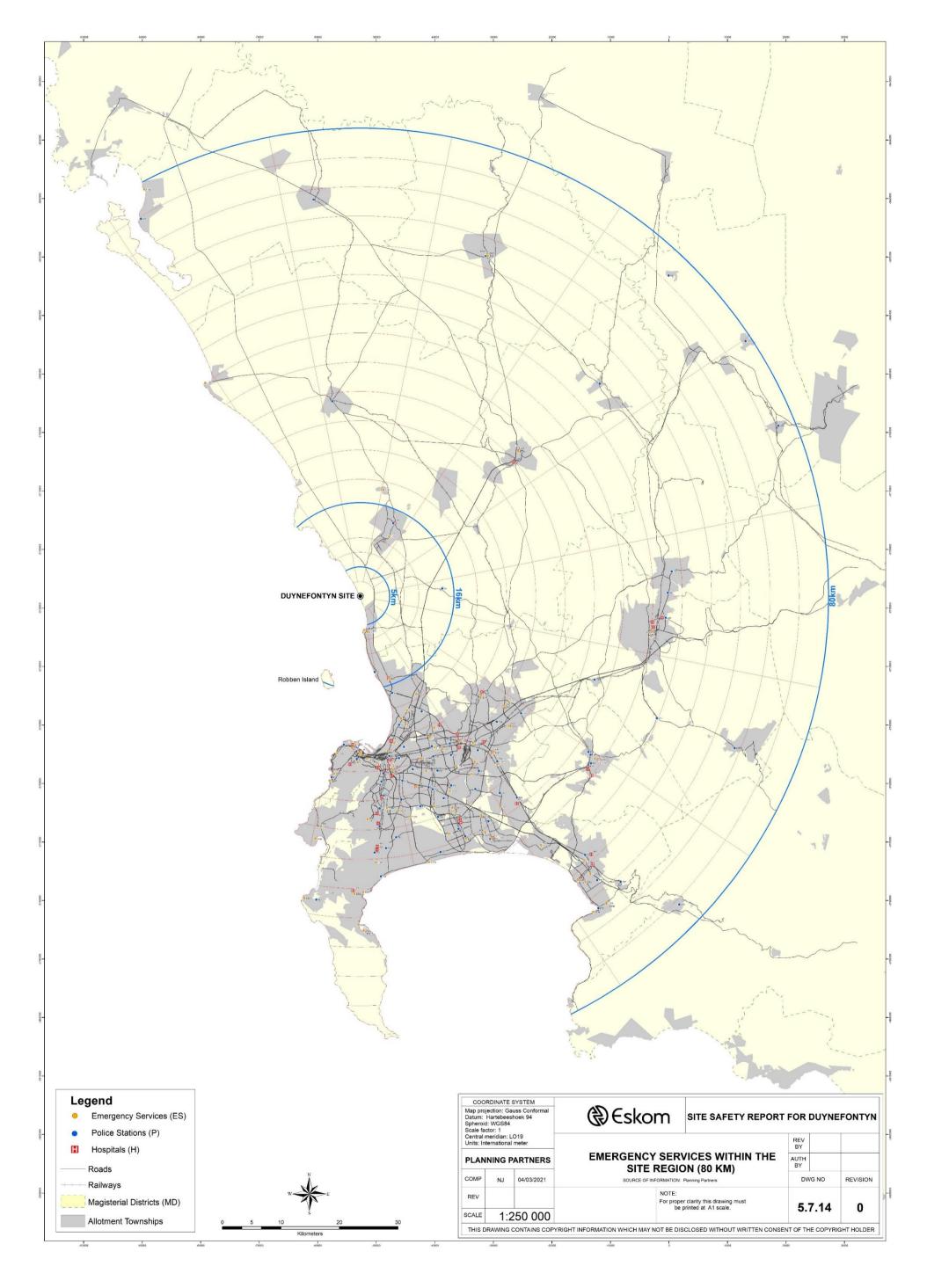
The Melkbosstrand station (ES1) is the nearest to the site (5.8 km south). The station has 76 volunteer members, 3 rescue vessels and 1 rescue vehicle. It is the only station in the site vicinity (Planning Partners, 2020k).

f) Traffic Departments

There is a total of 21 traffic departments located in the site region. A total of 388 traffic officials and 272 emergency vehicles are on-call in the site region. The Atlantis Traffic Department (ES3) is the nearest traffic department to the site, located 11.3 km to the north-northeast. This is also the only traffic department located in the site vicinity. The traffic departments are illustrated in **Drawing 5.7.14** and listed in **Appendix G** (Planning Partners, 2020k).

g) Metro Police

The Cape Town Metropolitan Police Department renders an additional policing service to communities living within the CMA, in partnership with SAPS and other stakeholders. Their mandate includes traffic enforcement, by-law enforcement and crime prevention. The service is provided through four precincts and a total of 402 members are employed in this service (Planning Partners, 2020k). *Appendix G* provides a tabulated summary of the location and distribution of the abovementioned emergency services in the site region. This table should be read with *Drawing 5.7.14* (Planning Partners, 2020k).



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h) Telecommunication Infrastructure

In addition to the abovementioned emergency services, this subsection presents the availability of telecommunication infrastructure within 35 km of the site. Telecommunication infrastructure is taken into consideration in emergency planning to determine if there is sufficient telecommunication infrastructure which can be utilised during an emergency event. The existing telecommunication infrastructure is illustrated in *Drawing 5.7.9* (Planning Partners, 2020f).

There is a total of 860 cellular base stations and transmitters within 35 km of the site. Refer to <u>Table B.1</u> in <u>Appendix B</u> for the names and locations of these base stations and transmitters. Only CellC and Vodacom were willing to disclose information on their cellular base stations and transmitters. MTN refused to disclose information due to the perceived sensitivity thereof. In the case of MTN, the information received in 2008 was used (Eskom, 2015). Note that the Telkom cellular network does not have its own cellular base stations or transmitters, but rather uses either CellC, MTN or Vodacom infrastructure (Planning Partners, 2020f).

It can be noted that the entire 35 km area is covered by cellular reception. Therefore, there are theoretically no 'dead zones' where no cellular coverage will be experienced. Refer to <u>Appendix B</u> for the individual cellular coverage maps (Planning Partners, 2020f).

In addition, there are 15 Telkom exchanges, 2 radio transmitters and 3 microwave towers within the 35 km radius which could be utilised for communication during emergency situations (Planning Partners, 2020f).

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5.7.16 Management of Uncertainties

5.7.16.1 Lack of or Limited Information

The development of this DSSR has been based on the most current and up-to-date available information. A lack of or limited information was noted for the following:

- The estimated timeframe of the upgrade and expansion of CTIA is not known and it is not sure if these plans will still be implemented. Neither of the two proposed airports in the site region have been finalised or approved. The future plan for the conversion of AFB Langebaan is not known.
- Data on hazardous substances transported by rail were not available.
- Data on aircraft movements at AFB Ysterplaat and Langebaanweg could not be obtained as the data are classified as confidential.
- The exact route of the planned LNG pipeline passing within the site vicinity has not been finalised. However, a risk assessment conducted to determine the impact of the pipeline on the KNPS has concluded that the pipeline poses no risk to the KNPS if the pipeline is located further than 1 km from the KNPS boundary (refer to Subsection 5.7.14.4).
- Information regarding the hazardous materials expected at the site was based on the EIA consistent data set (2008) and the KNPS experience. The hazardous materials that will occur on-site need to be confirmed once the nuclear installation design has been finalised.
- SAPS would not provide the exact number of police personnel per police station, as the information is classified as confidential.

5.7.16.2 Incomplete Information

The following data reflected in this section of the DSSR are considered to be incomplete. In particular, data related to nuclear installation design that cannot be quantified or determined in detail at this stage are relevant:

 Due to trade secrecy and competitive advantage reasons, the transport volumes and frequency of potential substances being transported per ship past the site are not known.

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 The identification of future bulk chemical transport to the site is based on assumptions made using the consistent EIA data set and the KNPS experience. A final inventory will need to be compiled to specify the anticipated future bulk chemical transport to the site once the nuclear installation design has been finalised.

5.7.17 Monitoring

As set out in <u>Section 5.2</u>, none of the topics covered in this <u>Section 5.7</u> are subject to monitoring.

However, the data on site characteristics and activities that present a potential source of external hazard to the nuclear installation(s) described in this section must be updated on a regular basis (suggested every five years).

5.7.17.1 Prior to Nuclear Installation Operation

Once a final decision is made with respect to the type of reactor(s) to be built on the site and the associated bulk chemical and hazardous inventories can be confirmed, the subsections related to on-site hazards and bulk transportation of hazardous substances to and from the site must be updated and reflected in the hazard evaluation in <u>Chapter 6</u>. This is also relevant for the estimation of the extent of transportation of radioactive material (fuel and waste) to and from the nuclear installation(s).

The final planned service infrastructure required to service the site must be included in this DSSR and its subsequent revisions prior to nuclear installation construction.

The existing KNPS has a restricted flying area, issued in terms of the Civil Aviation Act, 2009, above the site (Planning Partners, 2021d). The adequacy of this zone for the purposes of nuclear installation safety should be confirmed prior to nuclear installation construction.

5.7.17.2 During Nuclear Installation Lifetime

Changes in land use that could result in the location of new or extended stationary or mobile sources of hazards in the site vicinity is planned to be monitored by Eskom throughout the nuclear installation lifetime. The monitoring of hazards will include monitoring of hazardous activities in the site vicinity and the region, where appropriate, according to the type of activity concerned.

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There are plans to develop further industrial areas in the site vicinity at Atlantis, Du Noon/Doornbosch and Vissershok (Frankendale). Therefore, the potential for industrial development needs to be monitored over the lifetime of the nuclear installation(s). Refer to <u>Section 5.4</u> and <u>Section 5.5</u> which deal with the control of land use and development in the vicinity of the site in detail.

The potential to construct or convert three airports in the site region, one being located in the site vicinity, exists. These planned airports have however not been finalised or approved. Monitoring of these planning proposals will be required over the lifetime of the nuclear installation(s).

In cases where new sources of hazards (mobile or stationary) occur around the site, they will be evaluated and appropriately addressed in the operational documentation (e.g. future DSSRs, Safety Analysis Report, emergency plan) of the nuclear installation(s).

5.7.18 Management System

The investigations, assessment and evaluation of present and future transportation, industrial and military facilities in the site region entailed the following components:

- desktop study;
- site investigations;
- receipt/use of data from other DSSR investigations;
- data analysis and reporting;
- use of computer software, in particular excel sheets and GIS, for collating, interpretation and presentation of data;
- mapping and creation of a GIS database and data management system.

A quality assurance programme for the transportation, industrial and military facilities evaluation was established to control the effectiveness of the execution of the site investigation and data analysis. This conforms to the overall management system for this DSSR (see *Chapter 10*) and the Eskom guidelines, i.e. to the appropriate grading for safety classification in terms of RD-0034 (National Nuclear Regulator, 2008) and Eskom's NSIP02189 (Eskom, 2017) classification procedure. The

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evaluation of transportation, industrial and military facilities around a nuclear installation site has been determined as Safety Level 2, Safety Qualification 2 (for external man-made hazards and storage and transportation of hazardous substances) and Safety Level 3, Safety Qualification 3 (for civil infrastructure and installations) (Eskom, 2017). In terms of the procedure, the minimum RD-0034 requirements for Level 2 processes must be complied with. This management system is described in *Chapter 10*.

The activities carried out as part of the evaluation of the site and the results achieved are presented and described in this section of this DSSR. The databases are referenced in this section and form part of the GIS database that has been developed for this section. The results of the analysis are presented in the tables and in the drawings prepared for this section.

The following documents were compiled by the consultant and approved by Eskom to assist in quality assurance and to present a clear and auditable trail showing how key decisions were made and conclusions reached:

- SRK's Integrated Quality Management System and associated Work Instructions;
- The project-specific Project Quality Plan;
- Method Statement;
- Quality Control Plans;
- Project Process Chart.

The transportation, industrial and military facilities characterisation has followed a peer review process to ensure that the work is carried out using standard industry methodologies and approaches. The peer review was carried out by a suitably qualified, independent and experienced professional, approved by Eskom. Quality assurance is therefore demonstrated through the preparation of:

- a process chart containing reference to various data files;
- peer review reports.

Electronic records have been stored in a secure central repository with

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regular off-site backup procedures and subject to Eskom's approval. The overall quality system complies with <u>Chapter 10</u>. All references cited are saved on the central repository.

<u>Table 5.7.41</u> lists the activities to be carried out as part of the investigation and characterisation of nearby transportation, industrial and military facilities with their respective links to other DSSR sections/chapters and the relevant quality control requirements.

Table 5.7.41
Summary of Activities, Links and Quality Requirements

Activity	Li	nks	Quality Baguiramenta
Activity	Inputs	Outputs	Quality Requirements
Regional nearby transportation, civil, industrial and military facilities	Section 5.1 (Geography and Site Location): Determination of the site centroid. Section 5.5 and Water Use): Determination of future industrial activity.	Chapter 8: Informs the development of the emergency response plan.	Drawings and figures illustrating the regional transportation network, airspace and air corridors, shipping lanes, harbours and other launching facilities. Tabulated summaries of data. Peer review.
Identification of external human-induced hazards		Chapter 6: Hazard source inventories and related data, which inform the evaluation of external hazards.	Hazard source maps and tabulated hazard inventories. Tabulated summaries of accident statistics. Peer review.

<u>Table 5.7.42</u> sets out the regulatory compliance matrix which confirms that the regulatory requirements with respect to the identification and characterisation of external hazards have been met in this section of this DSSR.

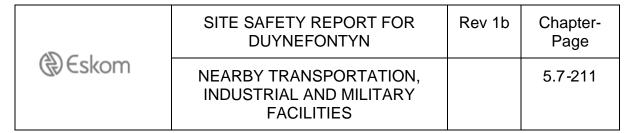
Table 5.7.42 Regulatory Compliance Matrix

Act / Regulation	Regulation	Issue	Section Where Covered
Regulations on Licensing of Site (Department of	4(5)	Potential man-made hazards	<u>Subsections 5.7.13,</u> <u>5.7.14</u> and <u>5.7.15</u>



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Act / Regulation	Regulation	Issue	Section Where Covered
Energy, 2011)			
Regulations on Licensing of Site (Department of Energy, 2011)	4(1) and 5(3)(a)	Factors relating to all nuclear installations in the site vicinity. Characteristics of the site in terms of external events and human-induced events	<u>Subsection 5.7.10.1,</u> <u>5.7.13</u> to <u>5.7.15</u>
Regulations on Licensing of Site (Department of Energy, 2011)	5(3)(f)	Projections of future site characteristics	Subsections 5.7.5.5, 5.7.6.4, 5.7.7.4, 5.7.8.4, 5.7.9.5, 5.7.10.5, 5.7.11.4, 5.7.11.6, 5.7.12.5
PP-0014	6	External human-induced events of accidental origin	Subsection 5.7.15.1
PP-0014	7	External hazard investigations should be identified by conducting site-specific and regional studies, based on published and unpublished scientific information from various provincial and state agencies, academic institutions, national building codes, industry, non-governmental, professional organizations and local communities.	<u>Subsections 5.7.5.5</u> to <u>5.7.14</u>
PP-0014	11.7	Air crash assessment	Subsection 5.7.15.1
RG-0011	7.1(2), (14)	Historic data (frequency and severity) and future estimates of human-induced events.	Subsection 5.7.15.1
RG-0011	7.1(4)	Projections of future site characteristics	Subsections 5.7.5.5, 5.7.6.4, 5.7.7.4, 5.7.8.4, 5.7.9.5, 5.7.10.5, 5.7.11.4, 5.7.11.6, 5.7.12.5
RG-0011	7.3.1	Air crash assessment	<u>Subsection 5.7.15.1</u>



Act / Regulation	Regulation	Issue	Section Where Covered
RG-0011	7.3.2, 7.3.3	External fires, explosions and asphyxiant/corrosive/toxic gas releases	<u>Subsection 5.7.15.1</u>
RG-0011	9.1(4)	Feasibility of emergency planning should be demonstrated.	<u>Subsections 5.7.6,</u> <u>5.7.9, 5.7.11.7</u> and <u>5.7.15.2</u>

5.7.19 Conclusions

The main conclusions to be drawn from this investigation are:

- The characteristics of nearby transportation, industrial, civil and military facilities in the region of application have been identified.
- Current and expected future distribution of nearby transportation, industrial, civil and military facilities in the region of application have been determined.
- The storage and transportation of hazardous substances in the region of application have been identified.
- The potential sources of external hazards that may pose a risk to nuclear installation safety have been determined, including relevant stationary and mobile source.
- The studies have been conducted to an adequate level of detail for the purpose of *Chapter 6*.
- The studies have been conducted to an adequate level of detail for the purpose of <u>Chapter 8</u>.
- Appropriate monitoring programmes and controls, which include regular revision of this section of this SSR, to provide on-going assurance regarding the viability of the site over its lifecycle can be established in compliance with regulatory requirements.

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Appendix A: Commercial Ports, Small Harbours and Public Small Craft Launching Facilities in the Site Region

Table A.1

Commercial Ports, Small Harbours and Public Small Craft Launching
Facilities in the Site Region (2018)

Facility	Distance (km)	Direction
Commercial Ports		
Port of Cape Town	26.2	S
Port of Saldanha	84.3 (outside site region)	NNW
Smaller Harbours		
Murrays Bay Harbour	14.4	SSW
Granger Bay Harbour	24.8	S
Victoria & Alfred Basins	25.3	S
Hout Bay Harbour	42.4	S
Kalk Bay Harbour	50.3	S
Simon's Town Harbour	57.0	S
Harbour Island	65.9	SE
Gordon's Bay Harbour	67.1	SE
Public Launching Facilities		
Melkbosstrand	5.8	S
Murrays Bay Harbour	14.4	SSW
Blouberg Beach (Doodles)	15.3	SSE
Ganzekraal	20.0	NNW
Oceana Power Boat Club	24.9	S
Three Anchor Bay	25.6	S
Victoria and Alfred Basin	25.8	S
Granger Bay Harbour	25.8	S
Port of Cape Town	27.0	S
Hout Bay Harbour	42.0	S
Yzerfontein Harbour	45.0	NW



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Facility	Distance (km)	Direction
Sonwabe Beach, Muizenberg	47.6	S
Kommetjie	52.0	S
Simon's Town Harbour	57.0	S
Melkbaai (Hottentots Holland)	59.8	SE
Strand Beach Road	61.1	SE
Miller's Point	62.0	S
Harbour Island	65.7	SE
Gordon's Bay Harbour	67.0	SE
Langebaan Yacht Club	73.5	NNW
Rooi Els	78.9	SSE
Club Mykonos	78.9	NNW

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Appendix B: Cellular Base Stations and Transmitters in a 35 km Radius

Cellular base stations were identified for a 35 km radius. Information was obtained from the cellular companies in South Africa, which included Cell C, Vodacom and MTN (Planning Partners, 2020f).

The information was obtained for two purposes. Cellular base stations, which could pose external hazards as sources of electromagnetic interference, were identified in the site vicinity to inform <u>Chapter 6</u> of the DSSR. Cellular base stations, that may be considered a key infrastructural item that support emergency planning, were also identified for a 35 km radius to inform **Chapter 8** of the DSSR.

Table B.1

Cellular Base Stations and Transmitters: 16 km and 35 km

Code	Site Name	Provider	Distance (km)	Direction		
Within th	Within the Site Vicinity (16 km)					
C1	3G_North_Beach_WES	Vodacom	2.05	S		
C2	3G_Duynefontein_WES	Vodacom	2.24	S		
C3	WT0008401A_Duynefontein_MTN	Cell C	2.24	S		
C4	ERF 2636	MTN	2.24	ESE		
C5	WT0007752A_MelkbosTelkom	CellC	5.54	SSE		
C6	3G_Melkbosstrand_WES	Vodacom	5.54	SSE		
C7	Melkbosstrand Telkom uW	MTN	5.54	SSE		
C8	Atlantic Beach Golf Estate	MTN	7.11	SSE		
C9	WT0005414A_Atlantic_Beach_Golf_Estate	Cell C	7.24	SSE		
C10	3G_Atlantic_Beach_WES	Vodacom	7.24	SSE		
C11	3G_Atlantis_Foundry_WES	Vodacom	9.87	NNE		
C12	3G_Atlantis_Industria_WES	Vodacom	10.28	NNE		
C13	3G_Atlantis_Eagle_Tiles_WES	Vodacom	10.52	NNE		
C14	Jiffy Packaging	MTN	10.63	NNE		
C15	WT0007753A_Jiffypackaging_MTN	Cell C	10.66	NNE		

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Code	Site Name	Provider	Distance (km)	Direction
C16	3G_Atlantis_Industria_North_WES	Vodacom	11.44	NNE
C17	WT0002590A_Atlantis_Industrial_BST	Cell C	11.49	NNE
C18	3G_Atlantis_Lafarge_WES	Vodacom	11.50	NNE
C19	3G_Big_Bay_La_Paloma_WES	Vodacom	11.70	SSE
C20	3G_Morningstar_Lock_Store_WES	Vodacom	12.04	SE
C21	Koeberg Hill	MTN	12.46	ESE
C22	3G_Koeberg_Hill_WES	Vodacom	12.48	ESE
C23	WT0007751A_Koeberg_Hill	Cell C	12.54	ESE
C24	3G_Atlantis_Docks_Mission_WES	Vodacom	12.55	NNE
C25	3G_Big_Bay_Checkers_WES	Vodacom	12.56	SSE
C26	Seaside Village pCell	MTN	12.56	SSE
C27	WT0002594A_First_Baptist_Church_ET	Cell C	12.63	NNE
C28	3G_Big_Bay_Sandown_WES	Vodacom	12.65	SSE
C29	3G_Atlantis_Avondale_WES	Vodacom	12.81	NNE
C30	3G_Eden_On_The_Bay_Ext_WES	Vodacom	12.96	S
C31	WT0004419A_Eden_on_the_Bay	Cell C	12.96	S
C32	3G_Table_Bay_Mall_DAS_WES	Vodacom	13.05	SSE
C33	3G_Big_Bay_DuneRidge_WES	Vodacom	13.23	SSE
C34	3G_Blaauwberg_Eskom_WES	Vodacom	13.27	SSE
C35	Atlantis Secondary School	MTN	13.28	NNE
C36	WT0004501A_Blaauberg_Substation_VC	Cell C	13.28	SSE
C37	3G_Atlantis_Sec_School_WES	Vodacom	13.39	NNE
C38	WT0004415A_Atlantis_Secondary_School	Cell C	13.41	NNE
C39	3G_Philadelphia_WR_WES	Vodacom	13.72	E
C40	WT0001821A_Atlantis_ATE	Cell C	13.84	NNE
C41	3G_Atlantis_WES	Vodacom	13.85	NNE
C42	Philadelphia NG Church	MTN	14.08	E
C43	Blouberg Heights	MTN	14.24	SSE
C44	WT0004173A_Blouberg_Heights	Cell C	14.26	SSE
C45	3G_Blaauwbergstrand_WES	Vodacom	14.28	SSE
C46	3G_Silwerstroom_Pump_Stn_WES	Vodacom	14.61	N

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Code	Site Name	Provider	Distance (km)	Direction
C47	3G_Atlantis_Bittern_Cres_A_WES	Vodacom	14.68	NNE
C48	WT0002598A_Atlantis_Saxonsea_BST	Cell C	14.82	NNE
C49	3G_Atlantis_Saxon_Sea_WES	Vodacom	14.84	NNE
C50	WT0008402A_Westport_Square	Cell C	14.84	SSE
C51	Netcare Blaauwberg	MTN	14.84	SSE
C52	Netcare Blaauwberg pCell	MTN	14.84	SSE
C53	3G_Blaauwberg_Ncare_WES	Vodacom	14.89	SSE
C54	3G_West_Beach_WES	Vodacom	14.93	SSE
C55	3G_Parklands_Chkrs_WES	Vodacom	15.01	SSE
C56	Westcoast Village uCell	MTN	15.01	SSE
C57	WT0004541A_Shoprite_Checkers_ Parklands	Cell C	15.01	SSE
C58	3G_Bloub_Infinity_WES	Vodacom	15.08	SSE
C59	WT0007026A_Blouberg_Infinity_Building	Cell C	15.21	SSE
C60	3G_Parklands_Olive_WES	Vodacom	15.33	SSE
C61	WT0005752A_Parklands_Somerset_ Gardens_VC	Cell C	15.56	SSE
C62	3G_Pklands_SM_Gdns_WES	Vodacom	15.56	SSE
C63	3G_Robben_Island_WES	Vodacom	15.62	SSW
C64	3G_Blouberg_Ridge_Prim_Schl_CTC_ WES	Vodacom	15.64	SSE
C65	WT0400225A_Bloubergridge_Primary_ CTC	Cell C	15.68	SSE
C66	3G_Vissershok_WES	Vodacom	15.77	SE
Beyond	Site Vicinity (16 km) and up to 35 km			
C67	WT0007750A_Vissershok	Cell C	16.00	SE
C68	WT0004114A_Ocean_View	Cell C	16.21	SSE
C69	3G_Eskom_Parklands_WES	Vodacom	16.22	SSE
C70	3G_Rivergate_MTN_WES_New	Vodacom	16.23	SE
C71	WT0008406A_Eskom_Rietvlei_MTN	Cell C	16.28	SSE
C72	3G_Park_West_Centre_WES	Vodacom	16.42	SSE
C73	WT0004887A_Park_West	Cell C	16.44	SSE

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Code	Site Name	Provider	Distance (km)	Direction
C74	3G_Bayside_WES	Vodacom	16.56	SSE
C75	WT0400118A_Parklands_Main_NEW	Cell C	16.63	SSE
C76	3G_Parklands_Ashwood_WES	Vodacom	16.64	SSE
C77	WT0004063A_Ashwood_Gardens	Cell C	16.64	SSE
C78	3G_Parklands_WC_WES	Vodacom	16.69	SSE
C79	3G_Bloub_Aquarius_WES	Vodacom	16.70	SSE
C80	WT0009459A_Aquarius_Blouberg	Cell C	16.71	SSE
C81	3G_Bayside_Mall_WES	Vodacom	17.06	SSE
C82	WT0004807A_Bayside_Shopping_Mall_ IBS	Cell C	17.07	SSE
C83	3G_Sea_Spray_WES	Vodacom	17.08	SSE
C84	3G_Raats_Drive_7Eleven_WES	Vodacom	17.14	SSE
C85	3G_Table_View_Mall_WES	Vodacom	17.31	SSE
C86	3G_Merlot_Centre_WES	Vodacom	17.54	SSE
C87	WT0000747A_Merlot_Parklands_VC	Cell C	17.55	SSE
C88	3G_Dolphin_Beach_WES	Vodacom	17.61	SSE
C89	WT0004486A_Dolphin_Beach_VC	Cell C	17.61	SSE
C90	WT0005365A_Killarney_Race_Park_VC	Cell C	17.66	SSE
C91	3G_KillarneyRace_WES	Vodacom	17.66	SSE
C92	WT0010059A_Dunoon_Atlas	Cell C	17.84	SE
C93	3G_Du_Noon_WES	Vodacom	17.85	SE
C94	3G_Klein_Dassenberg_WES	Vodacom	18.00	NE
C95	3G_Faircape_WES	Vodacom	18.10	ESE
C96	3G_Killarney_Roma_WES	Vodacom	18.20	SSE
C97	Dassenberg	MTN	18.27	NNE
C98	WT0004062A_Table_View_ATE	Cell C	18.43	SSE
C99	3G_Table_View_A_WES	Vodacom	18.44	SSE
C100	3G_Mamre_WES	Vodacom	18.63	NNE
C101	WT0007445A_Seaboard_Junction	Cell C	18.87	SSE
C102	WT0004128A_Killarney_Scrap_Yard	Cell C	18.96	SSE
C103	3G_Atlas_Gardens_WES	Vodacom	19.20	SE

40 5 1	SITE SAFETY REPORT FOR DUYNEFONTYN	Rev 1b	Chapter- Page
⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-224

Code	Site Name	Provider	Distance (km)	Direction
C104	WT0005363A_Atlas_Park_ATC	Cell C	19.20	SE
C105	3G_Killarney_Gdns_WES	Vodacom	19.34	SSE
C106	3G_Killarney_Bible_Schl_WES	Vodacom	19.39	SSE
C107	WT0004539A_Kilarney_Bible_School	Cell C	19.39	SSE
C108	3G_Milnerton_Sewage_WES	Vodacom	19.91	SSE
C109	3G_AME_Chatsworth_WES	Vodacom	20.58	NE
C110	3G_Burgundy_Est_North_WES	Vodacom	20.61	SSE
C111	3G_Durbanville_Rd_WES	Vodacom	20.61	SE
C112	3G_Sunset_Beach_WES	Vodacom	20.62	SSE
C113	WT0007408A_Sunset_Beach_Engine_VC	Cell C	20.63	SSE
C114	3G_Makro_Montague_WES	Vodacom	20.64	SSE
C115	WT0000752A_Stella_Park	Cell C	20.68	SSE
C116	WT0400515A_Burgundy_Storage_BST	Cell C	20.71	SSE
C117	WT0000751A_Burgundy_Estate_VC	Cell C	20.96	SSE
C118	WT0005388A_The_Gallery_VC	Cell C	21.02	SSE
C119	3G_Burgundy_Checkers_WES	Vodacom	21.13	SSE
C120	3G_The_Gallery_WES	Vodacom	21.20	SSE
C121	3G_Burgundy_Rsvr_WES	Vodacom	21.29	SSE
C122	WT0004160A_Burgundy	Cell C	21.35	SSE
C123	WT0007754A_Dassenburg_MTN	Cell C	21.43	NNE
C124	WT0004410A_Blouberg_Municipality	Cell C	21.44	SSE
C125	3G_Milnerton_Ridge_WES	Vodacom	21.44	SSE
C126	3G_Dassenberg_WES	Vodacom	21.47	NNE
C127	WT0004711A_Readymix_Open_Ground	Cell C	21.51	SE
C128	3G_Durbanville_VIIy_WES	Vodacom	21.55	SE
C129	3G_The_Paddocks_WES	Vodacom	21.57	SSE
C130	WT0004057A_Montague_Garden	Cell C	21.88	SSE
C131	3G_BP_Road_WES	Vodacom	21.88	SSE
C132	3G_Grotto_Bay_Atlas_WES	Vodacom	21.94	NNW
C133	3G_Milnerton_Medi_WES	Vodacom	22.15	SSE
C134	WT0004535A_Bothasig_North	Cell C	22.45	SSE

40 5 1	SITE SAFETY REPORT FOR DUYNEFONTYN	Rev 1b	Chapter- Page
⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-225

Code	Site Name	Provider	Distance (km)	Direction
C135	3G_Milpark_W_B_WES	Vodacom	22.48	SSE
C136	WT0004060A_Millpark_Apartments	Cell C	22.48	SSE
C137	3G_Bothasig_North_WES	Vodacom	22.52	SSE
C138	3G_Historic_Wines_WES	Vodacom	22.55	SSE
C139	WT0000107A_Montague_Gardens_Station _Rd_BST	Cell C	22.75	SSE
C140	3G_Centurion_Busines_WES	Vodacom	22.79	SSE
C141	3G_Montague_Grdns_A_WES	Vodacom	22.95	SSE
C142	3G_Kanonkop_WES	Vodacom	23.03	SE
C143	3G_Station_Road_WES	Vodacom	23.04	SSE
C144	3G_Milnerton_WES	Vodacom	23.10	SSE
C145	WT0007010A_Milnerton_VC	Cell C	23.10	SSE
C146	WT0006688A_BRECO_Omurumba_ Factory	Cell C	23.21	SSE
C147	3G_Breco_Factory_WES	Vodacom	23.21	SSE
C148	WT0007432A_Milnerton_Lighthouse	Cell C	23.31	SSE
C149	3G_Milnerton_Light_WES	Vodacom	23.31	SSE
C150	3G_Bothasig_Telkom_WES	Vodacom	23.57	SSE
C151	WT0004058A_Bothasig_ATE	Cell C	23.60	SSE
C152	WT0004412A_Centre_Point	Cell C	23.65	SSE
C153	WT0004424A_Montague_TFMC	Cell C	23.65	SSE
C154	3G_Telkom_TFMC_WES	Vodacom	23.67	SSE
C155	3G_Sable_Square_WES	Vodacom	23.81	SSE
C156	WT0004061A_Eskom_Plattekloof	Cell C	23.97	SSE
C157	3G_Eskom_Plattekloof_WES	Vodacom	23.98	SSE
C158	3G_Edgemead_Shopping_WES	Vodacom	23.98	SSE
C159	WT0008435A_Sable_Square	Cell C	24.08	SSE
C160	3G_Tygerhof_WES	Vodacom	24.12	SSE
C161	3G_Summer_Greens_WES	Vodacom	24.23	SSE
C162	WT0004052A_Sonnekus_Church	Cell C	24.29	SSE
C163	3G_Lagoon_Beach_Htl_WES	Vodacom	24.32	SSE
C164	WT0002544A_Summer_Greens_VC	Cell C	24.35	SSE

40 5 1	SITE SAFETY REPORT FOR DUYNEFONTYN	Rev 1b	Chapter- Page
⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-226

Code	Site Name	Provider	Distance (km)	Direction
C165	WT0002546A_Milnerton_Substation	Cell C	24.44	SSE
C166	3G_Plattekloof_Village_WES	Vodacom	24.58	SSE
C167	WT0400000A_Plattekloof_Spur	Cell C	24.58	SSE
C168	3G_Waterview_Park_WES	Vodacom	24.72	SSE
C169	WT0009463A_Waterview_Park_ET	Cell C	24.73	SSE
C170	3G_Villa_Via_WES	Vodacom	24.74	S
C171	3G_CPUT_Hotel_Schl_WES	Vodacom	24.76	S
C172	WT0004046A_Knightsbridge	Cell C	24.77	SSE
C173	WT0002580A_Mouille_Grange	Cell C	24.83	S
C174	3G_Knights_Bridge_WES	Vodacom	24.84	SSE
C175	WT0400149A_Welgelegen_Shopping_ Centre	Cell C	24.92	SSE
C176	3G_Table_Bay_Htl_DAS_WES	Vodacom	24.93	S
C177	3G_Monte_Vista_WES	Vodacom	24.94	SSE
C178	WT0008400A_Unicorn_MTN	Cell C	24.95	S
C179	3G_Paarden_Island_N_WES	Vodacom	24.96	S
C180	3G_Edgemead_WES	Vodacom	24.97	SSE
C181	3G_Colosseum_Ext_WES	Vodacom	25.00	SSE
C182	WT0004161A_Colosseum	Cell C	25.01	SSE
C183	3G_VA_East_Pier_WES	Vodacom	25.03	S
C184	3G_Century_C_Off_Int_WES	Vodacom	25.04	SSE
C185	WT0004534A_Springfield	Cell C	25.05	SE
C186	3G_SC_ABSA_Bridge_EL_2F_2_WES	Vodacom	25.05	SSE
C187	3G_Welgedacht_WES	Vodacom	25.05	SE
C188	3G_Mouille_Point_WES	Vodacom	25.07	S
C189	3G_Mouille_Point_WES	Vodacom	25.07	S
C190	WT0007412A_Cape_Town_Stadium_IBS	Cell C	25.09	S
C191	WT0007412B_Cape_Town_Stadium_IBS	Cell C	25.09	S
C192	WT0007412C_Cape_Town_Stadium_IBS	Cell C	25.09	S
C193	3G_Canal_Walk_South_WES	Vodacom	25.09	SSE
C194	3G_SC_ABSA_Bridge_ER_3F_1_WES	Vodacom	25.10	SSE

40 5 1	SITE SAFETY REPORT FOR DUYNEFONTYN	Rev 1b	Chapter- Page
⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-227

Code	Site Name	Provider	Distance (km)	Direction
C195	3G_Plattekloof_SAPS_WES	Vodacom	25.10	SSE
C196	WT0004801A_Canal_Walk_IBS	Cell C	25.13	SSE
C197	3G_SC_CCCC_1_WES	Vodacom	25.14	SSE
C198	WT0000079A_Cape_Town_Stadium	Cell C	25.15	S
C199	3G_Shimmy_Beach_WES	Vodacom	25.16	S
C200	WT0000730A_Shimmys	Cell C	25.17	S
C201	3G_CT_Stadium_B_WES	Vodacom	25.17	S
C202	WT0007529A_Cape_Town_Stadium	Cell C	25.20	S
C203	3G_Waterfront_DAS_WES	Vodacom	25.21	S
C204	WT0010410A_Century_City_Convention_ Centre_ET	Cell C	25.22	SSE
C205	3G_Klipheuwel_WES	Vodacom	25.23	E
C206	3G_Somerset_Hosp_WES	Vodacom	25.28	S
C207	WT0004370A_Somerset_Hospital	Cell C	25.29	S
C208	3G_Discovery_DAS_CellC_WES	Vodacom	25.29	SSE
C209	WT0400391A_Century_City_Lions_Arch_ ET	Cell C	25.32	SSE
C210	WT0004540A_Aurora_Shopping_Centre	Cell C	25.35	SE
C211	2G_Portswood_1_WES	Vodacom	25.43	S
C212	3G_Kanonberg_WES	Vodacom	25.49	SE
C213	3G_VA_Clocktower_WES	Vodacom	25.55	S
C214	3G_Phesantekraal_WES	Vodacom	25.55	ESE
C215	WT0004542A_Phesantekraal_VC	Cell C	25.55	ESE
C216	3G_Portswood_WES	Vodacom	25.56	S
C217	WT0004813A_V_and_A_Waterfront_IBS	Cell C	25.59	S
C218	3G_Waterfront_BOE_WES	Vodacom	25.62	S
C219	3G_Durbanville_WES	Vodacom	25.64	SE
C220	WT0004332A_La_Verona_MTN	Cell C	25.65	SE
C221	3G_Panorama_WES	Vodacom	25.65	SSE
C222	WT0004023A_CPOA_Three_Anchor_Bay	Cell C	25.71	S
C223	WT0004115A_Northlink_College_ Tygerberg	Cell C	25.72	SSE

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⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-228

Code	Site Name	Provider	Distance (km)	Direction
C224	WT0004371A_BOE_Building	Cell C	25.73	S
C225	3G_One_And_Only_WES	Vodacom	25.74	S
C226	3G_Acasia_WES	Vodacom	25.74	SSE
C227	WT0005347A_Acacia_Park_VC	Cell C	25.75	SSE
C228	3G_BP_HQ_GreenPoint_WES	Vodacom	25.77	S
C229	3G_York_Street_WES	Vodacom	25.83	S
C230	WT0004056A_Transnet_CTC	Cell C	25.84	SSE
C231	3G_Spoornet_CTC_WES	Vodacom	25.85	SSE
C232	WT0004020A_Thornie_Brae	Cell C	25.86	S
C233	3G_Panorama_Clinic_WES	Vodacom	25.91	SSE
C234	WT0004530A_Royale_Du_Cap_Plattekloof	Cell C	25.91	SSE
C235	3G_Paarden_Eiland_WES	Vodacom	25.92	S
C236	3G_Bothasig_WES	Vodacom	25.94	SE
C237	3G_Cape_Ritz_Hotel_WES	Vodacom	25.97	S
C238	WT0004163A_Romney_Park	Cell C	25.99	S
C239	WT0007437A_SABC_Sea_Point	Cell C	26.04	S
C240	3G_Sea_Point_SABC_WES	Vodacom	26.05	S
C241	3G_Somerset_Road_WES	Vodacom	26.08	S
C242	WT0004018A_Green_Point_Traffic_Dept	Cell C	26.11	S
C243	3G_Ocean_View_Drive_WES	Vodacom	26.12	S
C244	3G_Monte_Vista_Stn_WES	Vodacom	26.23	SSE
C245	WT0004317A_Monte_Vista_Station	Cell C	26.23	SSE
C246	WT0008440A_Monte_Vista	Cell C	26.24	SSE
C247	3G_Plattekloof_7_11_WES	Vodacom	26.24	SSE
C248	3G_Brooklyn_Solly_WES	Vodacom	26.25	S
C249	WT0001811A_Sea_Point_ATE	Cell C	26.26	S
C250	WT0004533A_Van_Riebeeks_Hof_Mall	Cell C	26.26	SE
C251	3G_Riebeekshof_Mall_WES	Vodacom	26.26	SE
C252	3G_Sea_Point_WES	Vodacom	26.26	S
C253	3G_Riebeekshof_Mall_Int_WES	Vodacom	26.27	SE
C254	3G_Section_Rd_WES	Vodacom	26.27	S

40 5 1	SITE SAFETY REPORT FOR DUYNEFONTYN	Rev 1b	Chapter- Page
⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-229

Code	Site Name	Provider	Distance (km)	Direction
C255	3G_AGS_Kruisgemeente_CTC_WES	Vodacom	26.27	SE
C256	WT0400001A_Section_Street_NEW	Cell C	26.28	S
C257	3G_Sovereign_Quay_WES	Vodacom	26.31	S
C258	3G_Proteaville_WES	Vodacom	26.31	SE
C259	3G_Glenwood_Spar_WES_New	Vodacom	26.33	SSE
C260	3G_Deville_WES	Vodacom	26.33	SE
C261	WT0007723A_De_Ville_Centre	Cell C	26.34	SE
C262	WT0004068A_NGK_Bergsig	Cell C	26.35	SE
C263	3G_Coen_Steytler_P_WES	Vodacom	26.37	S
C264	3G_Durbanville_Cntrl_WES	Vodacom	26.38	SE
C265	3G_Buitengracht_Str_WES	Vodacom	26.39	S
C266	WT0004009A_Durbanville_Garage_VC	Cell C	26.41	SE
C267	2G_Customs_House_WES	Vodacom	26.41	S
C268	3G_Firmount_Place_WES	Vodacom	26.41	S
C269	WT0004602A_CTICC_Westin_VC_IBS	Cell C	26.45	S
C270	WT0004048A_NGK_Ysterplaat	Cell C	26.45	S
C271	WT0004822A_State_Warehouse_COW	Cell C	26.46	S
C272	3G_Durbanville_Medi_WES	Vodacom	26.47	SE
C273	WT0004867A_Cape_Quarter_IBS	Cell C	26.49	S
C274	WT0007349A_De_Waterkant	Cell C	26.50	S
C275	WT0004453A_Provincial_Library	Cell C	26.51	S
C276	WT0004603A_CTICC_VC_IBS	Cell C	26.51	S
C277	3G_Cape_Quarter_WES	Vodacom	26.52	S
C278	WT0004022A_Manex_Flats	Cell C	26.54	S
C279	3G_Convention_Cnt_WES	Vodacom	26.56	S
C280	3G_N1_City_WES	Vodacom	26.59	SSE
C281	WT0004369A_Saft	Cell C	26.61	S
C282	3G_Foreshore_WES	Vodacom	26.61	S
C283	3G_Portside_DAS_A_WES	Vodacom	26.62	S
C284	3G_Chris_Barnard_DAS_WES	Vodacom	26.62	S
C285	3G_Saft_WES_New	Vodacom	26.63	S

40 5 1	SITE SAFETY REPORT FOR DUYNEFONTYN	Rev 1b	Chapter- Page
⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-230

Code	Site Name	Provider	Distance (km)	Direction
C286	3G_Northgate_Business_Park_WES	Vodacom	26.63	SSE
C287	WT0004806A_N1_City_Mall_IBS	Cell C	26.64	SSE
C288	2G_Investec_CBD_WES	Vodacom	26.67	S
C289	3G_Durbanville_Exch_WES	Vodacom	26.68	SE
C290	3G_Kenmere_WES	Vodacom	26.69	SSE
C291	3G_Cape_Harbour_WES	Vodacom	26.71	S
C292	19_021_0005_B03_Paarden_Island_S_ VOD_WES	Vodacom	26.74	S
C293	3G_Mweb_N1_City_WES	Vodacom	26.74	SSE
C294	WT0005491A_MWEB_Parow	Cell C	26.74	SSE
C295	WT0004051A_Kenmere_ATE	Cell C	26.74	SSE
C296	3G_Pier_Place_WES	Vodacom	26.74	S
C297	3G_Welgedacht_Res_WES	Vodacom	26.77	SE
C298	WT0008407A_Welgedacht_Reservior	Cell C	26.77	SE
C299	3G_Naspers_Int_WES	Vodacom	26.77	S
C300	3G_Lower_Loop_WES	Vodacom	26.77	S
C301	WT0008388A_SARS_Building	Cell C	26.78	S
C302	WT0400047A_Bolts_and_Nut_MTN	Cell C	26.80	S
C303	3G_N1_City_Hospital_WES	Vodacom	26.80	SSE
C304	3G_Rose_Street_WES	Vodacom	26.80	S
C305	3G_Panorama_Pick_n_Pay_WES	Vodacom	26.81	SSE
C306	3G_2_Long_Street_Mob_WES	Vodacom	26.82	S
C307	WT0004599A_Panaroma_Pick_and_Pay	Cell C	26.82	SSE
C308	2G_SARS_PABX_WES	Vodacom	26.82	S
C309	WT0004123A_State_House	Cell C	26.83	S
C310	2G_Internet_Sol_WES	Vodacom	26.83	S
C311	3G_No1_Thibault_Sq_WES	Vodacom	26.86	S
C312	3G_Corpus_Christi_WES	Vodacom	26.88	SSE
C313	3G_Fresnaye_B_WES	Vodacom	26.89	S
C314	3G_KPMG_Cape_Town_WES	Vodacom	26.89	S
C315	3G_Engen_Centre_WES	Vodacom	26.91	S

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⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-231

Code	Site Name	Provider	Distance (km)	Direction
C316	3G_Adderley_Street_WES	Vodacom	26.95	S
C317	2G_Thibault_Square_WES	Vodacom	26.96	S
C318	3G_Foreshore_Data_WES	Vodacom	26.97	S
C319	WT0004125A_Paardeberg_Resevoir	Cell C	26.99	SE
C320	3G_SC_Towers_4F_1_WES	Vodacom	26.99	S
C321	WT0004007A_Cape_Chambers	Cell C	27.00	S
C322	3G_Shell_House_WES	Vodacom	27.01	S
C323	WT0004440A_Liberty_Life	Cell C	27.03	S
C324	3G_Durbanville_Hills_WES	Vodacom	27.03	SE
C325	3G_47_On_Strand_WES	Vodacom	27.04	S
C326	3G_Parkade_WES	Vodacom	27.06	S
C327	2G_Civic_Centre_WES	Vodacom	27.07	S
C328	3G_Exchange_Build_WES	Vodacom	27.09	S
C329	WT0007413A_Cape_Town_Civic_Centre_ IBS	Cell C	27.09	S
C330	WT0004601A_Norwich_Building	Cell C	27.11	S
C331	3G_EI_Shaddai_WES	Vodacom	27.11	SE
C332	2G_Loop_Street_WES	Vodacom	27.15	S
C333	WT0004054A_Goodwood_Firestation	Cell C	27.15	SSE
C334	3G_Short_Loop_WES	Vodacom	27.15	S
C335	3G_50_Long_Str_WES	Vodacom	27.16	S
C336	WT0006247A_Parow_North_NG_Kerk	Cell C	27.17	SSE
C337	3G_Uitsig_WES	Vodacom	27.17	SSE
C338	WT0004843A_Golden_Acre_IBS	Cell C	27.18	S
C339	3G_Pavilion_Place_WES	Vodacom	27.19	S
C340	WT0004003A_ABSA_St_Georges	Cell C	27.20	S
C341	3G_Bo_Kaap_Mosque_WES	Vodacom	27.20	S
C342	WT0004019A_Bermon_Brothers	Cell C	27.21	S
C343	3G_Graanendal_WES	Vodacom	27.21	SE
C344	3G_Golden_Acre_WES	Vodacom	27.22	S
C345	3G_Transtel_CBD_WES	Vodacom	27.22	S

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⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-232

Code	Site Name	Provider	Distance (km)	Direction
C346	3G_Golden_Acre_DAS_WES	Vodacom	27.25	S
C347	3G_Berman_Brothers_WES	Vodacom	27.27	S
C348	3G_St_Georges_House_WES	Vodacom	27.28	S
C349	3G_Goedemoed_Centre_7_11_WES	Vodacom	27.31	SE
C350	3G_Greenmarket_Sq_WES	Vodacom	27.34	S
C351	3G_Grand_Parade_WES	Vodacom	27.35	S
C352	WT0004372A_44_Wale_STR	Cell C	27.35	S
C353	3G_Bo_Kaap_WES	Vodacom	27.38	S
C354	WT0006548A_Grand_Central_Mall_IBS	Cell C	27.39	S
C355	3G_Esplanade_Commco_WES	Vodacom	27.41	S
C356	WT0003544A_Maitland_ATE	Cell C	27.42	S
C357	3G_Grand_Central_WES	Vodacom	27.42	S
C358	3G_Train_Lodge_Stn_WES	Vodacom	27.42	S
C359	3G_Maitland_WES	Vodacom	27.42	S
C360	3G_St_Georges_Mall_WES	Vodacom	27.43	S
C361	3G_Sonstraal_WES	Vodacom	27.43	SE
C362	WT0000080A_Taj_Hotel_IBS	Cell C	27.48	S
C363	WT0400468A_Sable_Park_Discovery_IBS	Cell C	27.48	SE
C364	3G_Wale_Street_WES	Vodacom	27.49	S
C365	WT0002785A_Kensington_VC	Cell C	27.49	SSE
C366	WT0400476A_Train_Lodge_Commco	Cell C	27.49	S
C367	WT0008434A_Absa_Building	Cell C	27.50	S
C368	3G_Kensington_WES	Vodacom	27.50	SSE
C369	3G_187_Long_Str_WES	Vodacom	27.52	S
C370	3G_Welgemoed_WES	Vodacom	27.55	SE
C371	WT0007449A_Esplanade_Station_ Commco	Cell C	27.56	S
C372	3G_Bloem_Str_WES	Vodacom	27.56	S
C373	3G_Piazza_Du_Luz_WES	Vodacom	27.57	S
C374	2G_Peninsula_Hotel_WES	Vodacom	27.58	S
C375	WT0004142A_Sonstraal_Golf_Club	Cell C	27.59	SE

40 5 1	SITE SAFETY REPORT FOR DUYNEFONTYN	Rev 1b	Chapter- Page
⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-233

Code	Site Name	Provider	Distance (km)	Direction
C376	WT0004133A_Goodwood_Sports_Club	Cell C	27.60	SSE
C377	3G_DiData_Tyger_WES	Vodacom	27.60	SSE
C378	3G_Goodwood_North_WES	Vodacom	27.60	SSE
C379	3G_Graanendal_Farm_WES	Vodacom	27.60	ESE
C380	2G_Ministry_Build_1_WES	Vodacom	27.61	S
C381	2G_Truworths_CT_LCR_WES	Vodacom	27.61	S
C382	3G_Milton_Rd_7eleven_WES	Vodacom	27.63	SSE
C383	3G_Durbanville_Golfclub_A_CTC_WES	Vodacom	27.64	SE
C384	2G_Woolworths_CBD_WES	Vodacom	27.65	S
C385	3G_Loco_Road_WES	Vodacom	27.65	S
C386	WT0009514A_Kensington_Buccaneer_ BST	Cell C	27.66	SSE
C387	3G_Kensington_Buccaneer_WES	Vodacom	27.67	SSE
C388	WT0004233A_Protea_Park_Flats	Cell C	27.67	SSE
C389	2G_Ministry_Build_4_WES	Vodacom	27.68	S
C390	WT0009513A_Airport_Shopping_Centre_ BST	Cell C	27.69	S
C391	3G_Goodhope_Centre_WES	Vodacom	27.70	S
C392	WT0004124A_The_President_Hotel	Cell C	27.70	S
C393	WT0005359A_NGK_Kenridge	Cell C	27.71	SE
C394	3G_Parow_North_WES	Vodacom	27.71	SSE
C395	3G_Edward_Heights_WES	Vodacom	27.72	SSE
C396	WT0004226A_Cannon_Building	Cell C	27.72	SSE
C397	3G_Kenridge_NGK_WES	Vodacom	27.72	SE
C398	3G_President_Hotel_WES	Vodacom	27.75	S
C399	3G_Parliament_WES	Vodacom	27.75	S
C400	2G_Marks_Building_WES	Vodacom	27.75	S
C401	3G_Good_Hope_WES	Vodacom	27.79	S
C402	3G_SAPS_War_Room_WES	Vodacom	27.79	S
C403	WT0004526A_Good_Hope	Cell C	27.80	S
C404	3G_Plein_Street_WES	Vodacom	27.81	S
C405	WT0004011A_Russel_House	Cell C	27.81	S

40 5 1	SITE SAFETY REPORT FOR DUYNEFONTYN	Rev 1b	Chapter- Page
⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-234

Code	Site Name	Provider	Distance (km)	Direction
C406	3G_Albert_Rd_WES	Vodacom	27.82	S
C407	WT0400443A_Albert_Rd_Woodstork_BST _NEW	Cell C	27.82	S
C408	3G_Barrack_Street_WES	Vodacom	27.82	S
C409	WT0010072A_WC_Auto_Transporters_ CTC	Cell C	27.82	SSE
C410	3G_Cape_Auto_Transport_WES	Vodacom	27.83	SSE
C411	3G_Woodstock_WES	Vodacom	27.83	S
C412	3G_Maitland_East_WES	Vodacom	27.87	SSE
C413	WT0004832A_CellC_Office_Plattekloof	Cell C	27.89	SE
C414	WT0004005A_Barrack_Street_ATE	Cell C	27.89	S
C415	3G_Parow_Weimar_Rd_WES	Vodacom	27.91	SSE
C416	WT0004006A_Cape_Skyline_Resort	Cell C	27.92	S
C417	WT0004064A_NGK_Welgemoed	Cell C	27.92	SE
C418	WT0004151A_Koeberg_Station	Cell C	27.92	S
C419	3G_Welgemoed_NGK_WES	Vodacom	27.92	SE
C420	3G_Welgemoed_Centre_WES	Vodacom	27.93	SE
C421	WT0400015A_CTI_Business_Park	Cell C	27.93	SSE
C422	3G_Tamboers_Upper_WES	Vodacom	27.94	S
C423	WT0000125A_Tamboerskloof	Cell C	27.95	S
C424	3G_Tamboerskloof_WES	Vodacom	28.01	S
C425	3G_NGK_De_Tyger_CTC_WES	Vodacom	28.01	SSE
C426	3G_Ross_Demolitions_Atlas_WES	Vodacom	28.02	SSE
C427	WT0004012A_Tollgate_Industrial	Cell C	28.03	S
C428	WT0004017A_CITB_Training_Centre	Cell C	28.03	S
C429	3G_Salt_River_Commco_WES_New	Vodacom	28.07	S
C430	3G_Clicks_HQ_DAS_WES	Vodacom	28.07	S
C431	3G_De_Waal_House_WES	Vodacom	28.09	S
C432	WT0004014A_Katz_Building	Cell C	28.11	S
C433	3G_Durbanville_Ind_WES	Vodacom	28.14	ESE
C434	2G_Tiger_Foods_WES	Vodacom	28.15	SSE
C435	3G_Salt_River_WES	Vodacom	28.15	S

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⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-235

Code	Site Name	Provider	Distance (km)	Direction
C436	3G_CPUT_Campus_A_WES	Vodacom	28.17	S
C437	WT0004162A_Lochnerhof	Cell C	28.18	SSE
C438	3G_Goodwood_West_A_WES	Vodacom	28.21	SSE
C439	3G_The_Boulevard_WES	Vodacom	28.21	S
C440	3G_Dylcor_Flats_WES	Vodacom	28.21	SSE
C441	WT0004168A_Dylcor_Flats	Cell C	28.24	SSE
C442	3G_Durbanville_Golfclub_B_CTC_WES	Vodacom	28.24	SE
C443	3G_Berkley_Road_WES	Vodacom	28.25	S
C444	3G_Goodwood_Mall_WES	Vodacom	28.28	SSE
C445	3G_Snowflake_Silos_WES	Vodacom	28.28	S
C446	WT0009452B_Old_Mutual_Park_IBS	Cell C	28.31	SSE
C447	WT0009452A_Old_Mutual_Park_IBS	Cell C	28.31	SSE
C448	WT0007542A_Durbanville_Commco	Cell C	28.31	ESE
C449	WT0400445A_Goedemoed_7_11_MCL	Cell C	28.31	SE
C450	3G_Sonstraal_Cntr_WES	Vodacom	28.31	SE
C451	3G_ETV_DAS_WES	Vodacom	28.31	S
C452	3G_Old_Mutual_Campus_WES	Vodacom	28.34	SSE
C453	WT0004500A_Old_Mutual_Park	Cell C	28.34	SSE
C454	WT0007450A_Belarosa	Cell C	28.35	SE
C455	3G_Mt_Nelson_WES	Vodacom	28.36	S
C456	3G_Willowbridge_Mall_WES	Vodacom	28.36	SE
C457	WT0004154A_Siemens_House	Cell C	28.36	S
C458	3G_Bella_Rosa_WES	Vodacom	28.37	SE
C459	3G_Siemens_House_WES	Vodacom	28.37	S
C460	3G_Old_Mutual_WES	Vodacom	28.37	SSE
C461	3G_Wembley_Square_WES	Vodacom	28.38	S
C462	3G_Pinelands_WES	Vodacom	28.39	SSE
C463	3G_Mount_Nelson_MC2_WES	Vodacom	28.43	S
C464	WT0004129A_Thornton_Station	Cell C	28.43	SSE
C465	3G_Upper_Kloof_WES	Vodacom	28.44	S
C466	WT0004002A_Cape_Swiss_Hotel	Cell C	28.46	S

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⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-236

Code	Site Name	Provider	Distance (km)	Direction
C467	3G_Lady_Hamilton_Hotel_WES	Vodacom	28.47	S
C468	3G_Thornton_Station_WES	Vodacom	28.49	SSE
C469	3G_Gardens_WES	Vodacom	28.50	S
C470	WT0004001A_Schoonmill_Flats	Cell C	28.51	S
C471	3G_Goodwood_WES	Vodacom	28.55	SSE
C472	3G_Vasco_Station_WES	Vodacom	28.56	SSE
C473	3G_Clifton_WES	Vodacom	28.57	S
C474	WT0004230A_Vasco_Station	Cell C	28.57	SSE
C475	WT0004024A_Clifton	Cell C	28.59	S
C476	3G_De_Tijger_WES	Vodacom	28.59	SSE
C477	WT0004015A_Factory_Shop	Cell C	28.59	S
C478	3G_De_Waal_Inn_WES	Vodacom	28.60	S
C479	WT0004166A_Lengro_Park_Flats	Cell C	28.60	SSE
C480	3G_Gardens_Cnt_MTN_WES	Vodacom	28.60	S
C481	WT0004421A_Seesig_Flats	Cell C	28.61	SE
C482	WT0004121A_Garden_Centre_Flats	Cell C	28.61	S
C483	WT0007338A_Walmer_Estate	Cell C	28.62	S
C484	WT0004049A_SAPS_Radiotech	Cell C	28.63	SSE
C485	3G_Eastern_Blvd_Inn_WES	Vodacom	28.63	S
C486	3G_PetroSA_Int_WES	Vodacom	28.63	SE
C487	3G_Loevenstein_WES	Vodacom	28.64	SE
C488	WT0004537A_Sonstraal_Shopping_Centre	Cell C	28.65	SE
C489	3G_Grandwest_Aud_WES	Vodacom	28.65	SSE
C490	3G_Durbanville_East_WES	Vodacom	28.66	SE
C491	WT0004069A_Durbanville_Goedemoed	Cell C	28.66	SE
C492	WT0004013A_Durham_Square	Cell C	28.67	S
C493	3G_Glenlily_WES	Vodacom	28.68	SSE
C494	WT0000600A_Tygervalley_Mall_Parking	Cell C	28.70	SE
C495	3G_Zonnebloem_WES	Vodacom	28.72	S
C496	3G_Tygervalley_DAS_WES	Vodacom	28.76	SE
C497	WT0004127A_Tygervalley_Mall	Cell C	28.77	SE

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⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-237

Code	Site Name	Provider	Distance (km)	Direction
C498	3G_Observatory_WES	Vodacom	28.77	S
C499	WT0007418A_Parow_Central_ATC	Cell C	28.78	SSE
C500	3G_Ndabeni_WES	Vodacom	28.79	SSE
C501	3G_Upper_East_Hotel_WES	Vodacom	28.81	S
C502	WT0004821A_Tygervalley_Mall_IBS	Cell C	28.82	SE
C503	3G_Pasita_Park_WES	Vodacom	28.83	SE
C504	WT0004348A_Kapokberg	Cell C	28.83	N
C505	WT0004824A_Grand_West_Casino_IBS	Cell C	28.83	SSE
C506	3G_Karl_Bremmer_WES	Vodacom	28.84	SE
C507	3G_Socony_Rd_WES	Vodacom	28.85	SSE
C508	3G_Ndabeni_Foschini_WES	Vodacom	28.85	S
C509	3G_Santam_HQ_WES	Vodacom	28.85	SE
C510	WT0400444A_Saconi_Rd_Elsies_BST	Cell C	28.85	SSE
C511	3G_Darling_WES	Vodacom	28.85	N
C512	WT0004525A_Kloof_7_Eleven	Cell C	28.87	S
C513	3G_Oranjezicht_WES	Vodacom	28.88	S
C514	3G_Kloof_Nek_WES	Vodacom	28.91	S
C515	3G_Parow_West_WES	Vodacom	28.96	SSE
C516	3G_Oasis_DAS_WES	Vodacom	28.96	S
C517	3G_Sharp_House_WES	Vodacom	28.99	S
C518	3G_Hoheizen_WES	Vodacom	29.00	SE
C519	3G_Fisantekraal_CTC_A_WES_New	Vodacom	29.04	ESE
C520	WT0009445A_Woodstock_Upper	Cell C	29.04	S
C521	WT0400414A_Ruyterwacht_NGK_Atlas	Cell C	29.08	SSE
C522	3G_Ruyterwacht_NGK_WES	Vodacom	29.08	SSE
C523	3G_Rosenpark_Res_WES	Vodacom	29.17	SE
C524	3G_Observatory_1_WES	Vodacom	29.21	S
C525	WT0004055A_Parow_Firestation	Cell C	29.26	SSE
C526	WT0004223A_Viking_Business_Park	Cell C	29.26	SSE
C527	3G_Parow_Central_WES	Vodacom	29.26	SSE
C528	3G_New_Crest_Ind_WES	Vodacom	29.26	SSE

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⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-238

Code	Site Name	Provider	Distance (km)	Direction
C529	WT0004249A_Amanda_Glen	Cell C	29.27	SE
C530	3G_Stellenberg_Ch_WES	Vodacom	29.27	SE
C531	WT0004308A_ACVV_Eidelweiss	Cell C	29.28	SE
C532	3G_Hartleyvale_WES	Vodacom	29.29	S
C533	WT0005387A_Stellenbosch_Business_Sc hool	Cell C	29.30	SE
C534	3G_Viking_Place_WES	Vodacom	29.31	SSE
C535	3G_Vredelust_NGK_WES	Vodacom	29.33	SE
C536	WT0004098A_NGK_Vredelust	Cell C	29.33	SE
C537	3G_Cobblewalk_WES	Vodacom	29.36	SE
C538	3G_Parow_WES	Vodacom	29.40	SSE
C539	WT0004313A_Alcor_Place	Cell C	29.40	SSE
C540	WT0004021A_Hartleyvale_Football	Cell C	29.42	S
C541	3G_Groote_Schuur_WES	Vodacom	29.44	S
C542	3G_Durban_Road_WES	Vodacom	29.47	SE
C543	WT0004130A_Settlers_High_School	Cell C	29.47	SE
C544	3G_Vredehoek_WES	Vodacom	29.47	S
C545	WT0400209A_Die_Burger	Cell C	29.48	SE
C546	3G_Kloof_Nek_Out_WES	Vodacom	29.50	S
C547	WT0004016A_Groote_Schuur_Hospital	Cell C	29.50	S
C548	3G_Groote_Schuur_DAS_WES	Vodacom	29.51	S
C549	WT0004493A_Honey_Building	Cell C	29.51	SE
C550	WT0004528A_Elsies_River_Industrial	Cell C	29.52	SSE
C551	3G_Elsiesriver_Ind_WES	Vodacom	29.53	SSE
C552	3G_Settlers_High_WES	Vodacom	29.53	SE
C553	3G_Pinelands_Cent_WES	Vodacom	29.57	SSE
C554	WT0004327A_Garden_City_Heights	Cell C	29.60	SSE
C555	3G_Valkenberg_WES	Vodacom	29.61	S
C556	3G_Epping_Market_WES	Vodacom	29.62	SSE
C557	WT0004047A_Valkenberg_Hospital	Cell C	29.63	S
C558	3G_Parc_Du_Cap_WES	Vodacom	29.64	SE

40 5 1	SITE SAFETY REPORT FOR DUYNEFONTYN	Rev 1b	Chapter- Page
⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-239

Code	Site Name	Provider	Distance (km)	Direction
C559	3G_Epping_WES	Vodacom	29.64	SSE
C560	WT0004310A_Epping_ATE	Cell C	29.66	SSE
C561	3G_Sanlam_Shopping_WES	Vodacom	29.71	SSE
C562	3G_Metropolitan_1_WES	Vodacom	29.71	SE
C563	3G_Northlink_Parow_WES	Vodacom	29.75	SSE
C564	3G_Watcor_Park_WES	Vodacom	29.77	SSE
C565	WT0004819A_Parow_Mall_IBS	Cell C	29.77	SSE
C566	3G_Braemar_Str_WES	Vodacom	29.79	S
C567	3G_Hospital_Bend_WES	Vodacom	29.83	S
C568	3G_Pinelands_C_Sqr_WES	Vodacom	29.85	SSE
C569	3G_GlenGarry_Centre_WES	Vodacom	29.86	SE
C570	3G_Clifton_Beach_WES	Vodacom	29.88	S
C571	3G_Gunners_Circle_WES	Vodacom	29.98	SSE
C572	3G_Camps_Bay_Police_WES	Vodacom	29.99	S
C573	WT0004155A_SAPS_Camps_Bay	Cell C	30.00	S
C574	WT0400246A_Tygerberg_Station_ Commco	Cell C	30.04	SSE
C575	3G_Tygerberg_Stn_WES	Vodacom	30.04	SSE
C576	3G_Oakdale_WES	Vodacom	30.08	SE
C577	WT0004245A_Eskom_Club	Cell C	30.08	SE
C578	3G_Vincent_Palloti_Hospital_WES	Vodacom	30.08	S
C579	3G_Louis_Leipoldt_WES	Vodacom	30.09	SE
C580	WT0004608A_Langeberg_Church	Cell C	30.14	SE
C581	3G_Langeberg_Church_WES	Vodacom	30.14	SE
C582	3G_Kraaifontein_Sp_WES	Vodacom	30.15	ESE
C583	WT0004134A_Parksig_Flats	Cell C	30.15	SE
C584	WT0002565A_Kraaifontein_Sports_ Complex_VC	Cell C	30.16	ESE
C585	WT0004871A_Stellenridge_VC	Cell C	30.20	SE
C586	3G_Stellenberg_WES	Vodacom	30.20	SE
C587	WT0004190A_Beltoring	Cell C	30.21	SE
C588	WT0004644A_Table_Mountain_Lower_Sta	Cell C	30.22	S

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⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-240

Code	Site Name	Provider	Distance (km)	Direction
C589	3G_Lower_Cable_St_WES	Vodacom	30.23	S
C590	3G_Techno_Centre_WES	Vodacom	30.26	SE
C591	3G_Buhrain_WES	Vodacom	30.28	ESE
C592	WT0004131A_NGK_Parow_Valley	Cell C	30.30	SSE
C593	3G_Vredekloof_WES	Vodacom	30.36	SE
C594	3G_Epping_Industria_WES	Vodacom	30.36	SSE
C595	3G_Bofors_Circle_WES	Vodacom	30.38	SSE
C596	WT0004126A_Vredekloof_VC	Cell C	30.40	SE
C597	3G_Liesbeek_Gardens_WES	Vodacom	30.40	S
C598	WT0004350A_Bofors_Circle_VC	Cell C	30.41	SSE
C599	WT0004036A_Langa_Railway_Station	Cell C	30.44	SSE
C600	3G_Parowvallei_WES	Vodacom	30.46	SSE
C601	3G_Oakdale_South_WES	Vodacom	30.47	SE
C602	3G_Elsiesrivier_Avonwood_A_WES	Vodacom	30.48	SSE
C603	3G_Epping_Packer_Ave_WES	Vodacom	30.50	SSE
C604	3G_Langa_Station_WES	Vodacom	30.53	SSE
C605	3G_Park_Court_Lodge_WES	Vodacom	30.56	SE
C606	3G_Tygerberg_WES	Vodacom	30.58	SE
C607	3G_Savoy_Gardens_WES	Vodacom	30.60	S
C608	WT0000077A_Vredekloof_ATC	Cell C	30.60	SE
C609	WT0004423A_Savoy_Gardens	Cell C	30.61	S
C610	WT0000161A_Melomed_Hospital	Cell C	30.65	SE
C611	WT0000161A_Melomed_Hospital_IBS	Cell C	30.65	SE
C612	WT0000561A_Beaconvale_VC	Cell C	30.67	SSE
C613	3G_Beaconvale_WES	Vodacom	30.67	SSE
C614	3G_Melomed_Bellville_WES	Vodacom	30.67	SE
C615	3G_PG_Bison_WES	Vodacom	30.68	SSE
C616	3G_Brighton_Rd_7eleven_WES	Vodacom	30.73	SE
C617	WT0000549A_Parow_Valley_Preparatory_ School_MTN	Cell C	30.74	SSE
C618	3G_De_La_Rey_WES	Vodacom	30.74	SSE

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⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-241

Code	Site Name	Provider	Distance (km)	Direction
C619	3G_Camps_Bay_WES	Vodacom	30.75	S
C620	3G_NGK_Bellville_Noord_WES	Vodacom	30.82	SE
C621	WT0004167A_Tygerberg_Hospital	Cell C	30.85	SSE
C622	WT0004157A_Pinelands_Sports_MTN	Cell C	30.85	SSE
C623	3G_Makro_Cape_Gate_WES	Vodacom	30.86	SE
C624	3G_Pinelands_Sports_WES	Vodacom	30.87	SSE
C625	3G_Tygerberg_Hosp_WES	Vodacom	30.89	SSE
C626	3G_SC_Louwville_1_Mob_WES	Vodacom	30.90	SE
C627	WT0004116A_Cravenby_High_School	Cell C	30.91	SSE
C628	WT0008391A_Bellville_Central	Cell C	30.91	SE
C629	3G_Bofors_Industria_WES	Vodacom	30.96	SSE
C630	WT0006501A_16_Nourse_Avenue_MTN	Cell C	30.96	SSE
C631	3G_Cravenby_Schl_WES	Vodacom	31.00	SSE
C632	3G_Langa_High_Sch_WES	Vodacom	31.03	SSE
C633	WT0005413A_De_Bron	Cell C	31.03	SE
C634	WT0000597A_Langa_High_School_MTN	Cell C	31.05	SSE
C635	WT0004026A_ST_Giles_MTN	Cell C	31.06	S
C636	WT0004251A_Leo_Marquard	Cell C	31.06	S
C637	3G_Mowbray_WES	Vodacom	31.06	S
C638	3G_UCT_Sportscentre_WES	Vodacom	31.09	S
C639	3G_De_Bron_W_WES	Vodacom	31.10	SE
C640	3G_Rondeberg_WES	Vodacom	31.13	NNW
C641	3G_Cape_Gate_Medi_East_WES	Vodacom	31.13	SE
C642	3G_Eskom_Bellville_WES	Vodacom	31.14	SE
C643	WT0004201A_Bellville_Eskom	Cell C	31.14	SE
C644	3G_Stikland_WES	Vodacom	31.14	SE
C645	3G_UCT_1_WES	Vodacom	31.15	S
C646	3G_Red_Cross_Hosp_WES	Vodacom	31.19	S
C647	3G_NGK_Die_Parke_WES	Vodacom	31.19	SE
C648	WT0004097A_Table_Mountain	Cell C	31.20	S
C649	3G_Table_Mountain_WES	Vodacom	31.23	S

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⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-242

Code	Site Name	Provider	Distance (km)	Direction
C650	WT0004318A_Marine_Heights	Cell C	31.23	S
C651	WT0004255A_Holland_View	Cell C	31.24	SE
C652	3G_Bakoven_WES	Vodacom	31.24	S
C653	3G_UCT_Jameson_WES	Vodacom	31.25	S
C654	3G_UCT_Chem_Eng_WES	Vodacom	31.28	S
C655	WT0004851A_Cape_Gate_IBS	Cell C	31.31	SE
C656	3G_Stikland_Hosp_WES	Vodacom	31.36	SE
C657	3G_UCT_2_WES	Vodacom	31.42	S
C658	3G_Ravensmead_Fountain_WES	Vodacom	31.45	SSE
C659	3G_Brackenfell_Rugby_WES	Vodacom	31.47	SE
C660	WT0004143A_Brackenfell_Rugby_Club	Cell C	31.49	SE
C661	3G_Nobel_Park_WES	Vodacom	31.49	SE
C662	3G_Ravensmead_Pinkster_WES	Vodacom	31.50	SSE
C663	3G_Cape_Gate_D_WES	Vodacom	31.50	SE
C664	WT0004067A_NGK_La_Rochelle	Cell C	31.51	SE
C665	3G_Bonteheuwel_WES	Vodacom	31.55	SSE
C666	WT0004118A_Bessie_Weg	Cell C	31.55	SSE
C667	3G_Monument_Park_High_Atlas_WES	Vodacom	31.57	SE
C668	WT0400187A_Monument_Park_High_ Atlas	Cell C	31.57	SE
C669	3G_Kewtown_WES	Vodacom	31.59	SSE
C670	WT0002000A_Elsies_River_VC	Cell C	31.60	SSE
C671	3G_Sanbel_Building_WES	Vodacom	31.61	SE
C672	WT0010172A_Abbotsdale_Industrial_Atlas	Cell C	31.64	NE
C673	3G_Abbotsdale_Ind_WES	Vodacom	31.64	NE
C674	3G_Rondebosch_Shopping_WES	Vodacom	31.65	S
C675	WT0005345A_Athlone_Disabled_ Association_BST	Cell C	31.66	SSE
C676	WT0004053A_Sanbel	Cell C	31.67	SE
C677	3G_Elsies_River_WES	Vodacom	31.67	SSE
C678	3G_Bridgetown_WES	Vodacom	31.70	SSE
C679	3G_Matroosfontein_WES	Vodacom	31.71	SSE

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⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-243

Code	Site Name	Provider	Distance (km)	Direction
C680	3G_Rondebosch_Upper_WES	Vodacom	31.71	S
C681	3G_The_Document_Warehouse_WES	Vodacom	31.73	SSE
C682	WT0000596A_The_Document_Warehouse _Atlas	Cell C	31.73	SSE
C683	WT0004038A_Matroosfontein_Sports	Cell C	31.74	SSE
C684	3G_York_Str_7eleven_WES	Vodacom	31.76	SE
C685	WT0400366A_Bracken_Court	Cell C	31.76	SE
C686	WT0004050A_Rondebosch_ATE	Cell C	31.76	S
C687	3G_Kraaifontein_Sub_WES	Vodacom	31.76	ESE
C688	3G_Rondebosch_WES	Vodacom	31.77	S
C689	3G_Brackview_1_WES	Vodacom	31.81	SE
C690	WT0400369A_York_Street_7_Eleven_ Atlas	Cell C	31.82	SE
C691	3G_Sanlam_WES	Vodacom	31.83	SE
C692	3G_Eurecon_Church_WES	Vodacom	31.83	SSE
C693	WT0009483A_Eurecon_Church_Atlas	Cell C	31.83	SSE
C694	3G_Okavango_Ind_WES	Vodacom	31.84	SE
C695	WT0008409A_Kraaifontein_Substation	Cell C	31.85	ESE
C696	3G_County_Fair_WES	Vodacom	31.87	ESE
C697	WT0004811A_Pinkster_Kraaifontein_BST	Cell C	31.91	SE
C698	3G_Kraaifontein_Pinkster_WES	Vodacom	31.91	SE
C699	3G_Joostenberg_Vlakte_North_WES	Vodacom	32.02	ESE
C700	WT0000720A_Millenium_Mall	Cell C	32.03	SE
C701	WT0004523A_Camps_Bay_Shell	Cell C	32.13	S
C702	3G_Bonteheuwel_Noord_A_WES	Vodacom	32.13	SSE
C703	WT0004177A_Peninsula_Beverage	Cell C	32.18	SSE
C704	3G_Peninsula_Bev_WES	Vodacom	32.23	SSE
C705	WT0004181A_Ledger_House	Cell C	32.24	SSE
C706	WT0010165A_Blanch_Kelly_ATC	Cell C	32.28	SE
C707	3G_Bonteheuwel_Church_2_WES	Vodacom	32.29	SSE
C708	3G_Blanc_Kelly_ATC_A_WES	Vodacom	32.29	SE
C709	WT0010066A_Parow_Industria_3_Atlas	Cell C	32.29	SSE

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⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-244

Code	Site Name	Provider	Distance (km)	Direction
C710	3G_Mountain_Meat_WES	Vodacom	32.30	SSE
C711	3G_Doornkraal_U9_WES	Vodacom	32.31	ENE
C712	WT0004045A_Langa_PDSA	Cell C	32.34	SSE
C713	3G_Langa_WES	Vodacom	32.34	SSE
C714	3G_Sybrand_Park_A_WES	Vodacom	32.35	SSE
C715	3G_Brackenfell_Hyper_WES	Vodacom	32.42	SE
C716	3G_Westerford_WES	Vodacom	32.46	S
C717	3G_Kraaifontein_NGK_WES	Vodacom	32.47	SE
C718	3G_Bishop_Lavis_WES	Vodacom	32.47	SSE
C719	WT0004072A_NGK_Kraaifontein	Cell C	32.48	SE
C720	3G_Rondebosch_Marsh_WES	Vodacom	32.50	S
C721	WT0000430A_Mimosa_Bontheuwel	Cell C	32.51	SSE
C722	3G_Bonteheuwel_S_WES	Vodacom	32.52	SSE
C723	3G_Brackenfell_WES	Vodacom	32.53	SE
C724	3G_LOGOS_Church_Kraaifontein_WES	Vodacom	32.53	SE
C725	3G_Athlone_Stn_WES	Vodacom	32.54	SSE
C726	WT0000555A_Paradys_Park_VC	Cell C	32.54	SE
C727	3G_Bonteheuwel_Nerina_Prim_2_WES	Vodacom	32.56	SSE
C728	3G_Brackenfell_Ind_WES	Vodacom	32.61	SE
C729	WT0004532A_Okavango_Industria_VC	Cell C	32.61	SE
C730	WT0004414A_Avendale_Cricket_Club	Cell C	32.63	SSE
C731	3G_Eureka_Ind_WES	Vodacom	32.64	SSE
C732	3G_Newlands_A_WES	Vodacom	32.64	S
C733	3G_Triangle_Farm_Atlas_WES	Vodacom	32.65	SE
C734	3G_Great_Westerford_WES	Vodacom	32.65	S
C735	3G_Newlands_Rugby_P_WES	Vodacom	32.66	S
C736	WT0400061A_Lavistown_Station_ Commco	Cell C	32.72	SSE
C737	3G_Lavistown_Stn_WES	Vodacom	32.72	SSE
C738	WT0009482A_Bellville_Agrico_Atlas	Cell C	32.73	SE
C739	3G_Bellville_Agrico_WES	Vodacom	32.74	SE

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⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-245

Code	Site Name	Provider	Distance (km)	Direction
C740	WT0400122A_Shopright_HQ_RTL	Cell C	32.74	SE
C741	3G_Checkers_Head_Office_WES	Vodacom	32.75	SE
C742	WT0008395A_Albion_Mill_Apartments	Cell C	32.76	S
C743	WT0009478A_Lofdal_Baptist_Church_ET	Cell C	32.77	SE
C744	3G_Cape_Nature_DAS_WES	Vodacom	32.78	SSE
C745	3G_Newlands_Rugby_WES	Vodacom	32.78	S
C746	3G_Dean_Arcade_WES	Vodacom	32.79	S
C747	WT0004132A_PEP_Store	Cell C	32.83	SSE
C748	WT0004198A_Brackenfell_MTN	Cell C	32.86	SE
C749	WT0006473A_Stikland_Triangle_Proton_ BST	Cell C	32.86	SE
C750	3G_Stikland_Proton_WES	Vodacom	32.86	SE
C751	WT0004429A_Kaymore	Cell C	32.87	SE
C752	3G_Kaymor_WES	Vodacom	32.87	SE
C753	3G_Kraaifontein_Ind_WES	Vodacom	32.89	ESE
C754	3G_Brackenfell_Orion_WES	Vodacom	32.90	SE
C755	WT0009479A_Brackenfell_Orion_Park_ BST	Cell C	32.90	SE
C756	3G_Stikton_WES	Vodacom	32.90	SE
C757	3G_Brackenfell_Stn_WES	Vodacom	32.90	SE
C758	3G_Parow_Industria_WES	Vodacom	32.91	SSE
C759	3G_Bishop_Lavis_HS_WES	Vodacom	32.91	SSE
C760	WT0000595A_Bishop_Lavis_High_School _MTN	Cell C	32.92	SSE
C761	WT0008399A_Kasselsvlei_Primary	Cell C	32.98	SE
C762	3G_Parow_Ind_2_WES	Vodacom	32.98	SSE
C763	3G_Lawrence_Rd_WES	Vodacom	33.00	SSE
C764	2G_SAB_Newlands_WES	Vodacom	33.00	S
C765	3G_Kasselvlei_WES	Vodacom	33.05	SE
C766	WT0006553A_Vangate_Mall_IBS	Cell C	33.05	SSE
C767	RAN_Newlands_Cricket_C_Mob_WES	Vodacom	33.07	S
C768	3G_Vangate_Mall_WES	Vodacom	33.07	SSE

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⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-246

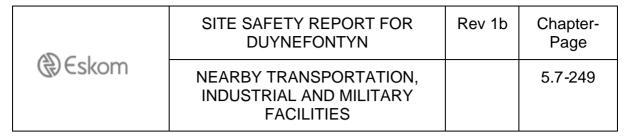
Code	Site Name	Provider	Distance (km)	Direction
C769	3G_Skywave_WES	Vodacom	33.08	SE
C770	3G_Valhalla_Park_WES	Vodacom	33.10	SSE
C771	WT0004191A_Skywave	Cell C	33.10	SE
C772	3G_Keurboom_WES	Vodacom	33.10	S
C773	WT0004156A_Keurbooms_Sports_VC	Cell C	33.11	S
C774	WT0004538A_Kraaifontein_Industrial	Cell C	33.18	ESE
C775	3G_Kraaifontein_WES	Vodacom	33.18	SE
C776	WT0005367A_Sandvlei_Farm_MTN	Cell C	33.21	SSE
C777	WT0004184A_Valhalla_Sportsfield	Cell C	33.21	SSE
C778	WT0004033A_Sunnyside_Sportsfield	Cell C	33.24	SSE
C779	3G_Sunnyside_Sports_WES	Vodacom	33.24	SSE
C780	3G_Pinkster_Evangelie_Cn_WES_New	Vodacom	33.27	SSE
C781	WT0010174A_Station_Street_7eleven_ Atlas	Cell C	33.29	SE
C782	3G_Station_Street_7eleven_WES	Vodacom	33.29	SE
C783	WT0004224A_Belcon_Terminal_Buildiing	Cell C	33.30	SSE
C784	3G_Fernwood_WES	Vodacom	33.34	S
C785	WT0004529A_Brackenfell_Checkers_VC	Cell C	33.36	SE
C786	3G_Brackenfl_Chkrs_WES	Vodacom	33.37	SE
C787	3G_Garden_Pot_Cnt_WES	Vodacom	33.37	SSE
C788	WT0004188A_Labiance	Cell C	33.37	SE
C789	3G_Labiance_WES	Vodacom	33.39	SE
C790	WT0000601A_Garden_Pot_Centre_MTN	Cell C	33.40	SSE
C791	WT0010516A_PnP_Montclare_NEW	Cell C	33.46	S
C792	WT0008398A_Greenlands_Primary	Cell C	33.46	SSE
C793	3G_Montclare_Place_WES	Vodacom	33.48	S
C794	WT0400062A_Belhar_Station_Commco	Cell C	33.49	SSE
C795	3G_Belhar_Stn_WES	Vodacom	33.49	SSE
C796	3G_Darling_NG_Kerk_WES	Vodacom	33.49	N
C797	3G_Everite_Ind_WES	Vodacom	33.51	SE
C798	3G_Steel_Park_WES	Vodacom	33.54	SE

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⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-247

Code	Site Name	Provider	Distance (km)	Direction
C799	3G_Sanclare_WES	Vodacom	33.56	S
C800	WT0004025A_Sanclare_Building	Cell C	33.61	S
C801	3G_Vineyard_Hotel_WES	Vodacom	33.62	S
C802	WT0004830A_Cavendish_Mall_IBS	Cell C	33.65	S
C803	3G_Robert_Sobukwe_WES	Vodacom	33.66	SSE
C804	3G_Brackenfell_Atlas_A_WES	Vodacom	33.68	SE
C805	3G_Glenhaven_MTN_WES	Vodacom	33.68	SE
C806	3G_Crawford_WES	Vodacom	33.70	SSE
C807	WT0010175A_Holy_Cross_Convent_BST	Cell C	33.72	SSE
C808	3G_UWC_WES	Vodacom	33.72	SSE
C809	WT0004144A_Athlone_School_of_Blind	Cell C	33.73	SE
C810	WT0000163A_UWC	Cell C	33.73	SSE
C811	3G_Link_Centre_WES	Vodacom	33.79	S
C812	3G_Cavendish_Shopping_Centre_A_WES	Vodacom	33.81	S
C813	WT0010503A_Crawford_Station_Commco	Cell C	33.81	SSE
C814	3G_Crawford_Stn_WES	Vodacom	33.81	SSE
C815	3G_Greenlands_Schl_WES	Vodacom	33.83	SSE
C816	3G_Kirstenbosch_WES	Vodacom	33.86	S
C817	WT0005362A_Heideveld_VC	Cell C	33.89	SSE
C818	WT0009494A_Timbacore_2_Atlas	Cell C	33.89	SE
C819	3G_Timbacore2_WES	Vodacom	33.89	SE
C820	3G_Heideveld_WES	Vodacom	33.89	SSE
C821	3G_4_Fabriek_Str_ATLAS_WES	Vodacom	33.90	SE
C822	WT0004413A_Rondebosch_East_Primary	Cell C	33.90	S
C823	3G_Rondebosch_Prim_WES	Vodacom	33.91	S
C824	3G_Athlone_WES	Vodacom	33.95	SSE
C825	WT0000558A_Sacks_Circle_VC	Cell C	33.96	SE
C826	3G_Sacks_Circle_WES	Vodacom	33.96	SE
C827	WT0004034A_Rylands_ATE	Cell C	34.02	SSE
C828	WT0004037A_Nico_Malan_College	Cell C	34.03	SSE
C829	3G_Claremont_Stn_WES	Vodacom	34.12	S

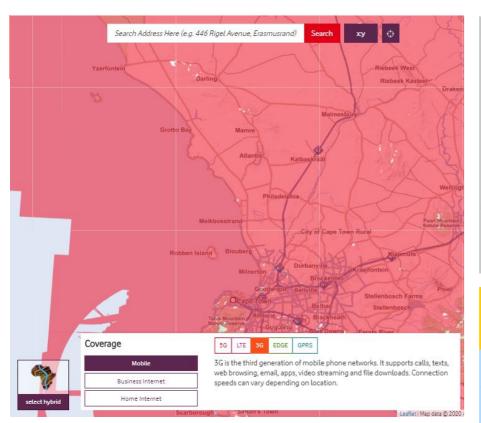
40 5 1	SITE SAFETY REPORT FOR DUYNEFONTYN	Rev 1b	Chapter- Page
⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-248

Code	Site Name	Provider	Distance (km)	Direction
C830	3G_Darling_Industrial_WES	Vodacom	34.19	N
C831	3G_Scottsdene_Church_WES	Vodacom	34.21	SE
C832	WT0004159A_Batavia_High_School	Cell C	34.24	S
C833	WT0010501A_Wynland_N1_Atlas	Cell C	34.25	ESE
C834	3G_Bloekombos_N1_WES	Vodacom	34.27	ESE
C835	WT0000709A_Protea_Heights	Cell C	34.28	SE
C836	3G_Malmesbury_WT_WES	Vodacom	34.29	NE
C837	WT0400082A_Duinestraat	Cell C	34.30	SSE
C838	WT0004488A_Malmesbury_Water_Tower	Cell C	34.30	NE
C839	WT0004039A_Livingstone_ATE	Cell C	34.33	S
C840	WT0004008A_Homechoice_Building	Cell C	34.33	S
C841	3G_North_Pine_WES	Vodacom	34.40	SE
C842	WT0004071A_North_Pine_Sports_Field	Cell C	34.40	SE
C843	WT0008318A_Enkululekweni_Primary_ School	Cell C	34.40	SE
C844	WT0004210A_Crawford_Islamic	Cell C	34.43	SSE
C845	3G_Enkululekweni_Schl_WES	Vodacom	34.48	SE
C846	WT0004239A_Apostolic_Faith_Mission	Cell C	34.49	SSE
C847	WT0009507A_Malmesbury_Agrico_Atlas	Cell C	34.51	NE
C848	3G_Malmesbury_Agrico_WES	Vodacom	34.51	NE
C849	WT0004199A_Bellvile_South_Industria	Cell C	34.53	SE
C850	WT0000557A_Bellville_Industrial_VC	Cell C	34.54	SE
C851	WT0004150A_King_David	Cell C	34.55	SSE
C852	WT0010500A_Kraaifontein_Bloekombos_ Atlas	Cell C	34.56	ESE
C853	WT0010061A_Heideveld_Station_ Commco	Cell C	34.71	SSE
C854	WT0008420A_BrakenFell_Convenience	Cell C	34.72	SE
C855	WT0000547A_Scottsdene_MTN	Cell C	34.82	SE
C856	WT0000122A_Athlone_Industria_TL	Cell C	34.89	SSE
C857	WT0005734A_Wallacedene_TL	Cell C	34.91	SE
C858	WT0004070A_Protea_Heights_VC	Cell C	34.93	SE



Code	Site Name	Provider	Distance (km)	Direction	
C859	WT0004242A_NGK_Kuilsriver	Cell C	35.04	SE	
C860	WT0007836A_Bergsig_Farm	Cell C	35.15	ESE	

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⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-250



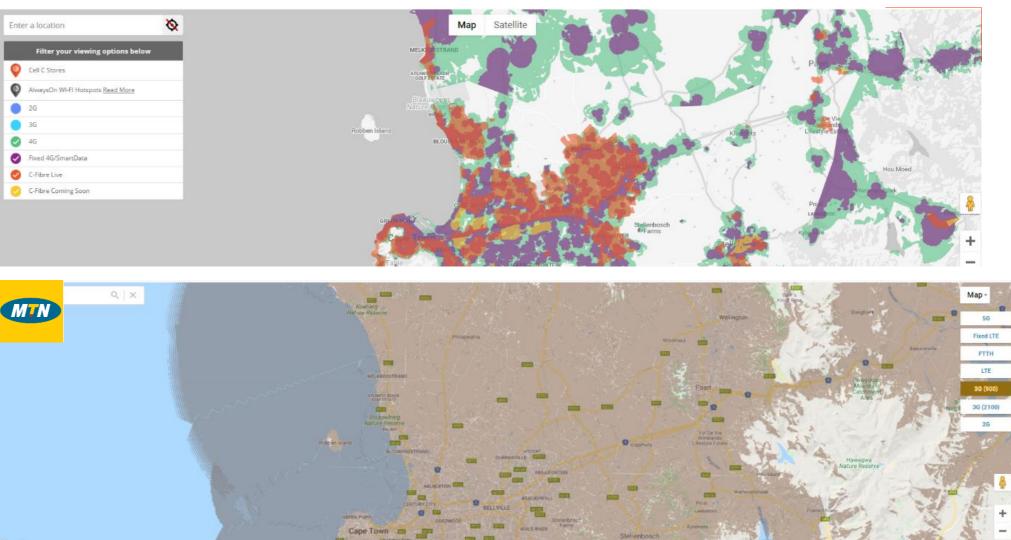


Figure A.5.7.B.1

Coverage Maps of Cellular Service Providers

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(∰ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-251

Appendix C: Survey of Hazardous Substances Stored in the Site Vicinity

Service St	vice Stations									
					Volume of Petrol	Volume of Diesel	Volume of LPG			
Number	Facility Name	Address	SG21 Code	Туре	Stored On-site	Stored On-site	Stored On-site	Other Haz Mat Stored	Contact Person	Contact Number
1	Caltex Melkbosstrand	6th Avenue, Melkbosstrand	C01600330000020400000	Service Station	92000	23000	18	0	Jackie Hamman	021-553 3010
2	Sasol Melkbosstrand	6th Avenue, Melkbosstrand	C01600330000450600000	Service Station	69000	23000	180	0	George du Plessis	021-553 4241
3	Total Melkbosstrand	R27 West Coast Road, Melkbosstrand	C0160000000009400002	Service Station	92000	46000	2000	0	R Hendricks	021-553 2533
4	BP Atlantis	Ivan Hampshire Place, Atlantis	C01600870000020300000	Service Station	184000	23000	0	0	Mike	021-577 4121
5	, ,	5 Josias Blanckenberg Street, Atlantis	C01600870000007100000	Service Station	66000	23000	2000	0	K. Kempen	021-577 2820
6	_	R304 & Klein Dassenberg Road, Atlantis	C01600000000002000057	Service Station	37000	23000	0	0	D. Rolo	021-572 5333
7	Shell Atlantis	Wesfleur Circle, Atlantis	C01600600000619300000	Service Station	66000	44000	0	0	Sinethemba Mvandaba	021-572 7643
8	Caltex Atlantis	Wesfleur Circle, Atlantis	C01600600000615500000	Service Station	69000	14000	0	0	Llody Jacobs	021-572 4003
9	Exel Atlantis	287 Grosvenor Ave, Avondale	C01600600000028700000	Service Station	23000	23000	0	0	Patrick Fortuin	021-572 0164
10	Engen Swartland 1Stop N7	N7, Cape Farms, Cape Town	C01600000000004100007	Service Station	69000	46000	0	0	E. Dippenaar	021-972 1836
11	Engen Sunningdale	Sandown Road, Sunningdale	C01600340003223400000	Service Station	69000	23000	360	0	Charl	021-554 2526
12	BP Sandown	1 Sandown Road, West Beach	C01600340002317400000	Service Station	50000	20000	360	0	Melanie Govender	021-554 3656

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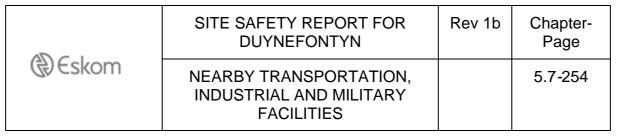
ATLANTI	S INDUSTRIA:									
					Volume of Petrol	Volume of Diesel	Volume of LPG			
Number	Facility Name	Address	SG21 Code	Туре	Stored On-site	Stored On-site	Stored On-site	Other Haz Mat Stored	Contact Person	Contact Number
1	Ajax Manufacturing	25 John van Niekerk street	C01600870000012000000	Industrial Site	0	0	192 kg	0	Darryl	021-577 1160
2	Motorhome-World	Unit A, Bouwers Industrial Park,	C01600870000002800000	Industrial Site	0	0	0	Various = total of 585 l	Johan Grove	087 985 0630
		13 Christopher Starke Rd								
3	Swartland	John Van Niekerk Street	C01600870000007100000	Industrial Site	6000	4000	150	Thinners = 210 l; white spirits = 2210 l	Arthur Arendse	0861 10 24 25
4	Brits Textiles	John Van Niekerk Street	C01600000000000400043	Industrial Site	0	0	80000	0	Albert Hoenck	021-577 1490
5	Golden Era Group of Companies/	Charles Mathews St, Industria		Industrial Site	0	0	1618	0	Dirkie van der Merwe	
	Gayatri Cans		C01600870000023600000							021-573 8800
6	Nuclear Packaging	Harry Alexander CI, Atlantis	C01600870000014000000	Industrial Site	0	0	480	Ethanol = 2760kg; PGMME = 2382kg	Alex van Dyk	
		Industria								021-577 1242
7	SAREBI (Novel)	Cnr John Dreyer and Neil Hare	C01600000000000400208	Industrial Site	0	0	38	0	Ryan Dearlove	
		Road								021-577 2719
8	Jushi Group SA Sinosia			Industrial Site	0	0	9000	0	Phillip	7
	Composite Materials	Neil Hare Road	C01600870000007100000							021-577 2727
9	Fusion Leather			Industrial Site	0	0	0	HFO = 15 000 l; Thinners = 162 kg; Formic Acid	Cecilia Wesson	
		46 Neil Hare Road Atlantis	C01600870000018300000					= 2400kg		021-577 1080
10	Eagle Rooftiles	Niel Hare Road	C01600870000028800000	Industrial Site	0	1500	0	Paraffin = 1500 l; Acid = 500 l	Richard Quinlivan	021-577 2110
11	Cape Cement Products	57 Charles Mathews St,		Industrial Site	0	600	12	Cement = 60 t; Iron Oxide = 1 t; Hydrolic oil =	Hanli de Beer	
		Industria	C01600870000018500000					210 l; engine oil = 210 l		021-577 4371
12	Insimbi Alloy Supplies			Industrial Site	0	0	0	Paraffin = 5000 I	Charlene	
		c/o Charles Matthews and, John					1			
		Van Niekerk St, Atlantis	C01600870000021500000				1			021-577 1901
13	Fibremill SA		C01600870000021200000	Industrial Site	0	2000	28	Acetone = 210 l	J Thomson	
		Johan Van Niekerk St, Atlantis								021-577 2160
14	Huhtamaki Packaging		C01600870000021100000	Industrial Site	0	60	160	Paraffin = 44000; Acetic Acid = 5000kg; Sodium	Heroldt Johnston	
								hypochlorite = 100 l; resin = 5000 kg; paper dye		
		4 Ivan Hampshire Place						= 15 000 kg		021-577 1080
15	M&B Fire Appliances	68 Neil Hare Rd	C01600870000026600000	Industrial Site	0	0	0	Paraffin = 25 l	JP Cloete	021-577 3355

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16	Atlantis Foundries	William Gourlay St, Atlantis	C01600870000028800000	Industrial Site	14000	47000	68	Amine = 1300 I; Spirits = 55 I; paint & chemicals	Roger Addison	021-573 7200
		Industrial						= 420		
17	Seyfert	C/N Tom Henshilwood & Neil	C01600870000007100000	Industrial Site	0	1000	0	0	Ankia Adams	021-535 2670
		Hare Roads								
18	Organic Synthesis	Norman Murray Street, Atlantis	C01600870000007100000	Industrial Site	0	0	0	Flammable liquid = 380 000 l	Arno McLeod	021-577 1470
		Industria								
19	Blockhouse Shutters	Mamre Road, Atlantis Industria		Industrial Site	0	0	204	0	Bertus	087 8202 202
			C01600870000023200000							
20	Skyward Windows	Charles Matthews Street,	C01600870000024500000	Industrial Site	0	0	0	Various = total of 264 l	Daniel Mukhesakule	021-276 1807
		Atlantis								
21	Stripform Packaging	20 Neil Hare Rd	C01600870000026800000	Industrial Site	0	0	0	Solvents = 600 l; ink = 2000kg	Amika Nell	021-577 1455

WWTW:	wwtw:										
					Volume of Petrol	Volume of Diesel	Volume of LPG				
Number	Facility Name	Address	SG21 Code	Туре	Stored On-site	Stored On-site	Stored On-site	Other Haz Mat Stored	Contact Person	Contact Number	
1	Melkbosstrand WWTW	Melkbosstrand	C01600330000147400000	WWTW	0	0	0	Chlorine = 400kg	Samuel Damonse	021-553 9902	
2	Wesfleur WWTW	Melkbosstrand	C0160000000003200007	WWTW	0	0	0	Chlorine = 5000kg	Paul September	021-400 1777	

WTW:	WTW:										
					Volume of Petrol	Volume of Diesel	Volume of LPG				
Number	Facility Name	Address	SG21 Code	Туре	Stored On-site	Stored On-site	Stored On-site	Other Haz Mat Stored	Contact Person	Contact Number	
1	Atlantis WTW	Atlantis	C01600000000003200007	WTW	0	0	0	Sulphuric acid = 30 t	Vernon Marinus	021-487 2571	
2	Silwerstroom WTW	Atlantis	C0460000000098000000	WTW	0	0	0	Chlorine = 1500kg	Vernon Marinus	021-487 2571	
3	Wirzands WTW	Atlantis	C01600000000000200003	WTW	0	0	0	Chlorine = 1500kg	Vernon Marinus	021-487 2571	



OTHER IN	OTHER INDUSTRIA:									
					Volume of Petrol	Volume of Diesel	Volume of LPG			
Number	Facility Name	Address	SG21 Code	Туре	Stored On-site	Stored On-site	Stored On-site	Other Haz Mat Stored	Contact Person	Contact Number
			C01600000000015300000					Argon = 36 kg; Acetylene = 8.6 kg; Toluene =		
								400 l; Benzene = 20 l; Hexane = 20 l; Acetone =		
1				1				20 l; Used oil = 286 l; waste oil = 1325 l; Low		
				1				sulphur oil = 280 l; 50:50 = 252 l; LO10 = 300 l;		021-425 3569
								HFO = 278 I; FOB = 132 I; Waxy oil = 145 I;		
								Naptha = 59 l; Paraffin = 192 l; LSMFO = 352 l;		
1	FFS Refiners	Vissershok		Refinery	0	4454	527	IF070/80/F06 = 380 I; MIBK = 66 I	Stanley Thomas	
2			C01600000000015300000					Hydraulic oil = 200 l; Used oil = 500 l;		
	Vissershok	N7		Waste Disposal Site	0	20000	0	Hydrochloric acid = 1500 I; Glycerol = 40000 I	Riyaz Nakhwa	021-487 2368
3	Apollo Bricks	R304	C01600000000003200013	Brickworsk	20	16000	9	Coal = 860 t; Oil - 1260 l		

0	OTHER:										
						Volume of Petrol	Volume of Diesel	Volume of LPG			
N	lumber	Facility Name	Address	SG21 Code	Туре	Stored On-site	Stored On-site	Stored On-site	Other Haz Mat Stored	Contact Person	Contact Number
	1	NSRI Melkbosstrand St 18	Melkbosstrand Beach	C01600330000062900000	NSRI	90	0	18	0	Rhine Barnes	082 990 5958
	2	Ankerlig OCGT	Atlantis Industria	C01600870000029000000	Gas Power Station	0	59400000	0	22.4 m ³ Propane		021-573 6000

KNPS:										
					Volume of Petrol	Volume of Diesel	Volume of LPG			
Number	Facility Name	Address	SG21 Code	Туре	Stored On-site	Stored On-site	Stored On-site	Other Haz Mat Stored	Contact Person	Contact Number
1	KNPS	Off West Coast Road	C0160000000155200000	Nuclear Power	14000	14000	0	Oxygen: 11.5 kg	Anita Killian	
l				Station				Acetylene: 8.5 kg		
1								Carbon Dioxide Gas: 31.3 kg		
1								Liquid Carbon Dioxide: 31.1 kg		
1								Nitrogen: 11.0 kg		
l								Propane Butane: 48 kg		
Į	<u>[</u>	<u>[</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	ļ	Helium: 1.51 kg		J J
								Argon, ultra-high purity: 17.4 kg		
								Argon, high purity: 3.5 kg		
								Argonmethane: unknown		
								Hydrogen (3%)/Nitrogen (97%): 60.0 ℓ		
								Hydrogen (10%)/Nitrogen (90%): 60.0 ℓ		
								Hydrogen (100%): 60.0 ℓ		
								Chlorine: 70 ℓ		
								Technical Air: 8.5 kg		
								Helium, instrument grade: 10.0 ℓ		
								Hydrogen, instrument grade: 10.0 ℓ		
								Ammonia: 3 000 kg		
								Caustic: 23 227 kg		
	1							Sulphuric Acid: 47 603 kg		
								Sodium Hypochlorite: 12 000 ℓ p/a		

QUARRIES	QUARRIES (outside of 16 km):										
					Volume of Petrol	Volume of Diesel	Volume of LPG				
Number	Facility Name	Address	SG21 Code	Туре	Stored On-site	Stored On-site	Stored On-site	Other Haz Mat Stored	Contact Person	Contact Number	
1	Portland Quarry	Tygerberg Mountain	C0160000000109800008	Quarry	0	0	0	12 t of HEF100	Ronelda Paxton	021-972 1111	
2	Gran Sasso Quarry	Tygerberg Mountain	C01600000000147400000	Quarry	0	0	0	15 t emulsion explosives	Runa Peterson	021-557 1111	
3	Afrimat/Afrisam	Tygerberg Mountain	C01600000000019900000	Quarry	0	23000	0	0	Karien Botha	021-917 8865	

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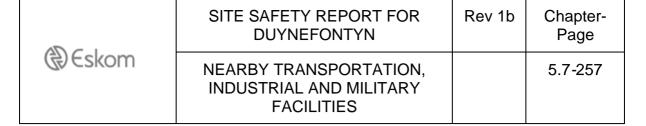
Appendix D: Eskom EIA Data Set (2008)

	Unit	Envelope
Auxiliary Steam Boiler		
Auxiliary steam boiler (x3)	t/h	32
Diesel storage tanks (x2)	m³	230
Chlorination		
Circulating Water System (CRF, main cool	ing water)	
Normal operation-continuous	mg/kg	2.00
Shock (3 x /day for 15 min)	mg/kg	4.00
Continuous consumption rate	kg	13 565
Shock consumption rate	kg	848
Total consumption rate	kg	14 413
SEN (auxiliary cooling water)		
Normal operation-continuous	mg/kg	2.00
Shock (3 x /day for 15 min)	mg/kg	4.00
Continuous consumption rate	kg	656
Shock consumption rate	kg	41
Total consumption rate	kg	697
Hydrogen Plant (H ₂)		
H ₂ Plant/unit	Nm ³ /h @ 25 Bar	15
4 x Storage tanks	Nm³	30

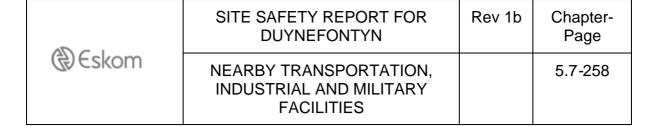


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	Unit	Envelope
Demineralisation Plant		
Units	each	2
Capacity per unit	m³/day	2 000
Conductivity of water	S/cm	0.2 x 10 ⁶
Silica SiO ₂	g/l	20 x 10 ⁶
Sodium	g/l	1 x 10 ⁵
Suspended solids	g/l	50 x 10 ⁶
Fuel (Nuclear)		
Enrichment of fuel (by weight)	%	4.95
Rods/assembly	each	265
Assemblies/load	each	241
Fuel active height	m	4.20
Fuel assembly pitch	m	0.215
Mass of fuel rod	kg	2.80
Mass of assembly	kg	780
Total assembly mass in reactor	ton	187.98
Duration of fuel in reactor	months	18
Spent fuel over lifecycle (approximate)	ton	1 880



	Unit	Envelope
Gas Turbines		
General Specifications		
Gross output power (2 off)	MW	25.30
Gross efficiency	%	34.00
Fuel mass flow	kg/s	1.74
Exhaust Gas		
Exhaust gas mass flow	kg/s	85
Exhaust gas temperature	°C	538
Gas Composition		
N ₂	%Vol	74.80
O ₂	%Vol	13.90
CO ₂	%Vol	4.20
H ₂ O	%Vol	6.20
Ar	%Vol	0.90
SO ₂	%Vol	0.00



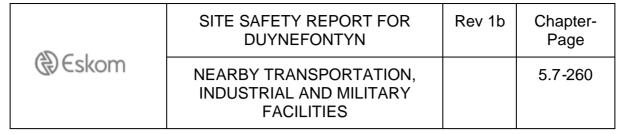
	Unit	Envelope						
Non-radioactive Releases (Operational F	Non-radioactive Releases (Operational Phase)							
Gas		Ventilation						
Gas exit volume	m³/min							
Exit gas velocity (normal)	m/s	5.80						
Exit gas velocity (outage)	m/s	6.35						
Gas Turbine Exhaust Gas								
Exhaust gas mass flow	kg/s	85						
Exhaust gas temperature	°C	538						
Gas Composition								
N ₂	%Vol	74.80						
O2	%Vol	13.90						
CO ₂	%Vol	4.20						
H ₂ O	%Vol	6.20						
Ar	%Vol	0.90						
SO ₂	%Vol	0.00						

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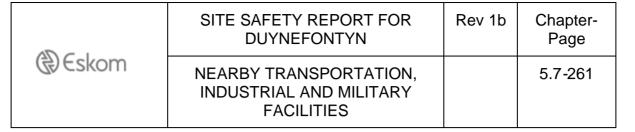
Appendix E: Aircraft Incidents and Accidents in the Site Region

Table E.1: Historical Data on Aircraft Incidents and Accidents in the Site Region (January 2008 to December 2020) (* indicates a Minor Aircraft Incident)

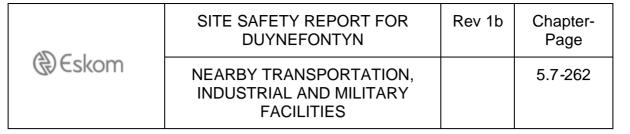
	Aircı	Aircraft			Distance		
Date	Туре	Propeller, Jet or Heli	Mass	Incident of Accident Location	and Direction from Site	Reason for Accident	Application
2020 (2 reports):							
2020/07/17	Airbus Helicopter	Heli	<5.7t	СТІА	36 km SSE	Incorrect recovery technique for a steep approach.	Private
2020/07/05 *	Hercules	Prop	>5.7t	AFB Ysterplaat	25.9 km SSE	Aircraft veered off the runway.	Military
2019 (1 report):							
2019/08/15	Bantam B22J	Prop	<5.7t	S33°15'51.35" E018°13'27.59"	49.6 km NW	Propeller failure.	Private
2018 (4 reports):							•
2018/06/20 *	Air Tractor, AT-301	Prop	<5.7t	Cape Town Airport	36 km SSE	Unsuccessful forced landing due to engine failure.	Private
2018/04/09 *	Avions Pierre Robin DR500	Prop	<5.7t	Fisantekraal Airfield	30.5 km ESE	Loss of control during take-off due to wind shear.	Private
2018/03/26	Jabiru J400	Prop	<5.7t	Morningstar airfield	14.6 km SE	Aircraft bounced during landing, causing the undercarriage to collapse and the aircraft to veer off the runway.	Private
2018/02/13	Sling 2	Prop	<5.7t	Morningstar Airfield	14.6 km SE	Sudden loss of height during landing.	Private



	Aircra	aft			Distance		
Date	Туре	Type Propeller, Jet or Heli Mass Incident of Accident Direction from Site Reason for Accident		Reason for Accident	Application		
2017 (9 reports):							
2017/12/11	Oryx 1236	Heli	<5.7t	Near Hugenot Tunnel	>62 km E	Crashed into overhead powerlines.	Military
2017/11/18 *	Cheetah Rainbow	Prop	<5.7t	Delta200 Airfield	4.6 km NE	Nose gear failed at landing and aircraft sustained damage.	Private
2017/09/12 *	Diamond DA 20-C1	Prop	<5.7t	Fisantekraal Airfield	30.5 km ESE	Hard landing and aircraft bounced and sustained damage.	Training
2017/09/28	R44 Raven II	Prop	<5.7t	Lwandle, Somerset West	62 km SE	Aircraft collided with overhead powerlines and crashed.	Private
2017/08/18 *	British Aerospace AVRO 146- RJ85A	Jet	>5.7t	On approach to CTIA (9DME CTV)	36 km SSE	Aircraft engine caught fire; landed safely.	Commercial
2017/08/05	Bushbaby	Prop	<5.7t	GPS coordinates: S33°44'58.63", E18°33'7.87" (north of Delta200 Airfield)	15.0 km SE	Aircraft engine cut out during flight. Pilot attempted a forced landing on an open field. After touched down, the nose wheel collapsed and the aircraft flipped over.	Private
2017/07/29 *	Jabiru J400	Prop	<5.7t	GPS coordinates: S33°45'23.28"S, E18°32'52.78"	14.6 km SE	Aircraft engine started to splutter and pilot headed back to airfield.	Private
2017/04/18 *	Aveko Flamingo VL-3	Prop	<5.7t	Moreson Farm Airstrip, Franschhoek	64.2 km ESE	Aircraft veered off the runway during landing. The nose landing gear collapsed and the propeller struck the ground and broke off.	Private
2017/03/16 *	Thunder Mustang Papa 51	Prop	<5.7t	GPS coordinates: S34°14'08.27", E018°50'59.69" (near Rooi Els)	72 km SSE	Engine failure during flight.	Private



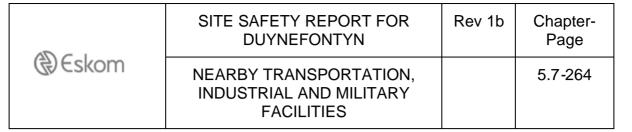
Date	Air	craft			Distance		
	Туре	Propeller, Jet or Heli	Mass	Incident of Accident Location	and Direction from Site	Reason for Accident	Application
2016 (5 reports)	:	•			•		•
2016/12/26	Robinson R44 II	Heli	<5.7t	Stellenbosch Airfield	49.5 km SE	Shortly after take-off the governor warning light came on. During the approach for the Stellenbosch Airfield there was a loss of power, resulting in a hard landing and substantial damage.	Private
2016/12/02	Diamond Aircraft 20-C1	Prop	<5.7t	Fisantekraal Airfield	30.5 km ESE	Emergency landing due to loss of nose wheel after take-off. Substantial damage to aircraft.	Training
2016/11/20 *	Boeing 767-300ER	Jet	>5.7t	CTIA, Runway 19T	36 km SSE	Engine bird strike during take-off.	Commercial
2016/07/02 *	Jabiru J160	Prop	<5.7t	Kleine Zalze Estate, near Stellenbosch Airfield	47 km SE	Forced landing after engine failure.	Private
2016/03/03	Cessna 208	Prop	<5.7t	Off R45 Road near AFB Langebaanweg	Unknown	Unknown	Military
2015 (7 reports)	:						
2015/12/05	Mooney M20J	Prop	<5.7t	Fisantekraal Airfield	30.5 km ESE	Hard landing with damages to the right undercarriage.	Commercial
2015/08/16	Cessna 441	Prop	<5.7t	Tygerberg mountains	22 km SE	During flight path the aircraft lost contact with the ATC Cape Town. Aircraft crashed with five fatalities.	Private
2015/08/08	Challenger II	Microlight	<5.7t	Blouberg private farm	Unknown	Pilot suffered physical incapacitation due to pre- existing cardiac condition. Aircraft crashed with two fatalities.	Private



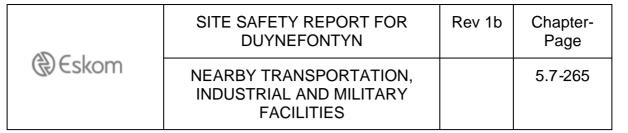
	Aircr	aft			Distance		
Date	Туре	Propeller, Jet or Heli	Mass	Incident of Accident Location	and Direction from Site	Reason for Accident	Application
2015/05/07	Ela-08 Gyrocopter	Heli	<5.7t	Approximately 50 m from the beach near Jakkalsfontein	35 km NNW	The attitude was too low to get enough airspeed and lift and the pilot was unable to clear the dune field and during an attempted forced landing the wheels got stuck in the sand and the gyrocopter rolled over to the right.	Private
2015/04/22	Bell 205	Heli	<5.7t	Bainskloof area	60 km E	During a fire fighting procedure the aircraft was too low and struck a rock with the left skid and rolled over and crashed with two fatalities.	Fire fighting
2015/03/08	Bell Garlick UH-1H	Heli	<5.7t	Cape Point Nature Reserve	65 km S	The pilot was unable to regain control following a loss of tail rotor thrust, followed by the failure of the tail rotor driveshaft. The aircraft crashed with one fatality.	Fire fighting
2015/02/12 *	Cessna 177	Prop	<5.7t	CTIA, Runway 16	36 km SSE	During flight, the pilot experience difficulty with the extension of the landing gear.	Private
2014 (11 reports):							
2014/12/11 *	Cessna 210	Prop	<5.7t	СТІА	36 km SSE	Aircraft entered CTIA TMA without ATC clearance at 7200 ft routing towards Stellenbosch Airfield.	Private
2014/12/08 *	Piper Seneca II	Prop	<5.7t	Stellenbosch Airfield	49.5 km SE	Nose gear failed to retract.	Training
2014/11/23 *	Fligth Design CTSW	Prop	<5.7t	± 10km west of Gouda	60 km NE	The aircraft experienced engine problems shortly after levelling off at 2 000 ft.	Private

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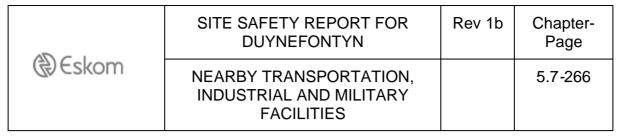
	Aire	craft		Distance			Application
Date	Туре	Propeller, Jet or Heli	Mass	Incident of Accident Location	and Direction from Site	Reason for Accident	
2014/11/22 *	Gyrocopter	Heli	<5.7t	Morningstar Airfield	14.6 km SE	Hard landing due to excessive applying of left rudder to try and align the aircraft with the middle of the runway.	Private
2014/09/12 *	Diamond Aircraft 20-C1	Prop	<5.7t	Fisentekraal Airfield	30.5 km ESE	Pilot lost control of aircraft during landing due to poor landing technique.	Training
2014/06/13	Auto Gyrocopter	Heli	<5.7t	Stellenbosch Airfield	49.5 km SE	Aircraft crashed shortly after take-off due to taking off prematurely and poor take-off technique and lack of experience.	Private
2014/04/15	Magni Gyrocopter	Heli	<5.7t	Blouberg private farm	Unknown	The pilot was the holder of a commercial pilot license and was completing a conversion onto a gyrocopter prior to the accident. Accident occurred due to poor technique and lack of experience.	Type conversion
2014/03/29 *	Embraer Legacy	Jet	>5.7t	Spier Wine Estate	48 km SE	The aircraft experienced engine failure during flight.	Private
2014/03/13	TAF Sling 2	Prop	<5.7t	CTIA, Runway 20	14.6 km SE	During landing the aircraft rolled on the runway and lost directional control and veered off the runway.	Private
2014/01/24	Van RV-7A	Prop	<5.7t	CTIA, Runway 01	36 km SSE	Pilot lost control of aircraft during landing and made a hard landing with nose gear due to a wind gust. Accident occurred due to poor landing technique.	Private



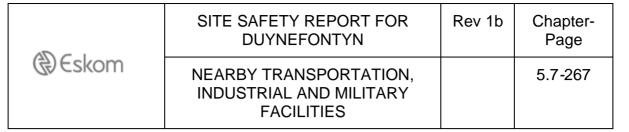
	Air	rcraft			Distance		
Date	Туре	Propeller, Jet or Heli	Mass	Incident of Accident Location	and Direction from Site	Reason for Accident	Application
2014/01/04 *	Eurocopter AS-365N2	Heli	<5.7t	7.5 nm west off Green Point Cape Town	25 km S	After the hand-over to the co-pilot, the helicopter lost its carried load. Incident cause could not be determined.	Commercial
2013 (10 reports):				•		
2013/12/03 *	Boeing 777-200	Jet	>5.7t	CTIA, Runway 19	36 km SSE	After departure the nose landing gear would not retract.	Commercial
2013/11/17 *	Boeing 767-300	Jet	>5.7t	GPS coordinates: \$33°52'06.71", E18°34'12.15" (Tygerberg)	22 km SE	Aircraft lost a component during flight due to metal fatigue. Landed without damage.	Commercial
2013/10/26	Cessna C210	Prop	<5.7t	Fisantekraal Airfield	30.5 km ESE	The pilot forgot to lower the landing gear and executed a wheels-up landing.	Private
2013/10/24 *	Yakovlev Yak 18T	Prop	<5.7t	Ingiwi Farm, Stellenbosch	45 km SE	During take-off, smoke was seen coming from the aircraft's engine.	Private
2013/08/19	Magni M16 Gyro	Heli	<5.7t	Fisantekraal Airfield	30.5 km ESE	The pilot stated that he felt severe left and right movement on the cyclic, due to incorrect technique. Aircraft sustained substantial damage.	Private
2013/03/21 *	Piper PA-28-140	Prop	<5.7t	CTIA, Runway 19	36 km SSE	Pilot allowed the aircraft to bounce on landing, which caused the nose gear to break off and the propeller struck the runway surface.	Private
2013/02/27 *	Boeing 737-800	Jet	>5.7t	CTIA	36 km SSE	No. 2 engine failed during the take-off run, take-off was aborted and the aircraft was able to taxi to the apron on the No. 1 engine.	Private



	Α	Aircraft			Distance		
Date	Туре	Propeller, Jet or Heli	Mass	Incident of Accident Location	and Direction from Site	Reason for Accident	Application
2013/02/12	Extra 300	Prop	<5.7t	Next to the R304 on the Klipheuwel Road	25 km E	Unsuccessful forced landing due to fuel starvation. Aircraft sustained substantial damage.	Private
2013/01/10	Windlass Aquilla	Microlght	<5.7t	GPS coordinates: S33° 37' 674", E18°40' 947" (Wintervogel Flight Park)	23.9 km ENE	Engine sputter, followed by a loud bang. Post impact fire. Cause is undetermined.	Private
2013/01/10	Bantam	Paraglider	<5.7t	Bantry Bay	26 km S	Strong winds and the vortex caused the aircraft to spiral resulting in loss of control and crashed into a house. Cause was error in judgement.	Private
2012 (4 reports):		<u> </u>			•		1
2012/12 *	Cessna 152	Prop	<5.7t	Stellenbosch Airfield	49.5 km SE	Student pilot veered off runway during a touch- and-go; nose landing gear collapsed and propeller struck the ground.	Training
2012/08/23	Grumman Mohawk	Prop	<5.7t	Near Morningstar Airfield	14.6 km SE	Engine failure after take-off, pilot executed a forced landing in a wheat field, aircraft nosed over coming to rest in an inverted attitude.	Private
2012/08/09	Windlass Trike	Microlight	<5.7t	Near Yzerfontein	40 km NW	Aircraft crashed in sand dunes due to fuel exhaustion.	Private
2012/04/14	Hot air balloon	Balloon	<5.7t	Near Stellenbosch	49.5 km SE	Hot air balloon collided with power lines.	Commercial
2011 (6 reports):	•	•	•	•	•		
2011/08/29	Cessna 188B	Prop	<5.7t	Schoongesig Farm between Hermon and Gouda	60 km ENE	Ran off runway during take-off.	Scrop spraying



	Air	craft			Distance		
Date	Туре	Propeller, Jet or Heli	Mass	Incident of Accident Location	and Direction from Site	Reason for Accident	Application
2011/08/03	Robinson R44 Raven II	Heli	<5.7t	UCT Sportsfields	32 km SSE	Loss of power resulting in decay in main rotor RPM and crashed due to lack of experience.	Private
2011/04/06 *	Cessna 206	Prop	<5.7t	Delta200 Airfield	4.6 km NE	Aircraft damaged due to parachute impacting he elevator.	Private
2011/03/27	Cessna 206	Prop	<5.7t	Delta200 Airfield	4.6 km NE	Unsuccessful forced landing following an inflight engine failure.	
2011/02/25	Robinson R44	Heli	<5.7t	Somerset West (Heartland)	58 km SE	Loss of control in flight and aircraft crashed.	Private
2011/02/03	Ela aviacion.s.l	Heli	<5.7t	Near Table Mountain	33 km S	Engine power loss in-flight, emergency landing, nose wheel collapsed and aircraft flipped over.	Private
2010 (5 reports):		<u> </u>			-1		
2010/10/18	Rotorway	Heli	<5.7t	Near Morningstar Airfield	14.6 km SE	Aircraft impacted the ground during an autorotation and rolled over.	Training
2010/07/02	Eurocopter	Heli	<5.7t	CTIA	36 km SSE	Low rotor RPM, unable to recover, hard landing, main rotor severed the tail boom with substantial damage.	Private
2010/07/01	Beech 58 Baron	Prop	<5.7t	CTIA	36 km SSE	The pilot landed the aircraft without selecting the landing gear down.	Private
2010/05/29	Windlass Aquilla	Microlight	<5.7t	Morningstar Airfield	14.6 km SE	Aircraft struggled to gain altitude, pilot performed a forced landing, aircraft landed hard and flipped over.	Private
2010/04/10	Robinson R22	Heli	<5.7t	CTIA	36 km SSE	Tail rotor drive shaft failed during take off and aircraft sustained extensive damages.	Private



	Aircr	aft			Distance		
Date	Туре	Propeller, Jet or Heli	Mass	Incident of Accident Location	and Direction from Site	Reason for Accident	Application
2009 (7 reports):	:				•		
2009/11/28 *	Cessna 177	Prop	<5.7t	Fisantekraal Airfield	30.5 km ESE	Loss of engine power, forced landing due to fuel exhaustion.	Private
2009/11/22	Cessna 210N	Prop	<5.7t	CTIA	36 km SSE	Main landing gear failed to extend following a hydraulic failure in-flight, propeller, left wing and lower fuselage was damaged during landing.	Private
2009/11/12	Piper PA 46	Prop	<5.7t	CTIA	36 km SSE	Aircraft veered off the runway after tyre burst.	Private
2009/10/29 *	PC-7 MkII Astra	Jet	>5.7t	Near AFB Langebaanweg	82.2 km NNW	Passenger was ejected by accident.	Military
2009/07/17	Soneral Two	Prop	<5.7t	Fisantekraal Airfield	30.5 km ESE	Aircraft damaged during emergency landing.	Private
2009/03/19 *	Brittish Aerospace Bae 146- 200	Jet	>5.7t	CTIA	36 km SSE	All engines flamed out.	Commercial
2009/03/08	Ryan Navion	Prop	<5.7t	Stellenbosch Airfield	49.5 km SE	Pilot failed to select the landing gear down.	Private
2008 (4 reports):	:						
2008/09/03	Robinson R 22 Beta	Heli	<5.7t	Delta 200	4.6 km NE	Aircraft rolled over during landing.	Training
2008/05/27	Cessna 150 L	Prop	<5.7t	Near CTIA	36 km SSE	Taxiway, gate closed on aircraft, substantial damage.	Private
2008/05/02	Jabiru	Prop	<5.7t	Fisantekraal Airfield	30.5 km ESE	Aircraft struck overhead transmission line pole and crashed.	Private
2008/03/07	Beechcraft B200	Prop	<5.7t	CTIA	36 km SSE	Left hand main gear collapsed after landing and aircraft sustained substantial damage.	Private

47.5.1	SITE SAFETY REPORT FOR DUYNEFONTYN	Rev 1b	Chapter- Page
⊗ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-268

Table E.2: Historical Data on Unmanned Aerial Systems Incidents and Accidents in the Site Region (January 2016 to December 2023)

Date	Aircraft	Incident of Accident Location	Distance and Direction from Site	Reason for Accident	Application
10/11/2022	Matrice 210	Granger Bay	21.81 km S	Technical error and potential human error. The UAS was launched from a boat. 15 minutes into the flight, whilst the aircraft was tracking the boat from above, the pilot heard a sound coming from the UAS and saw the UAS in a rapid descent. The pilot lost control and the UAS was lost in the ocean.	UAS
25/05/2021	Phantom 4 Pro	4 km south of Robben Island	18.58 km SSW	Human error. It was reported that the drone was launched from the shore of Table Bay approximately 4 km south of Robben Island aerodrome on a filming flight when the pilot (who was on the boat) lost visual contact with the drone due to the brightness of the sun in his eyes. He then lost control of the drone and it impacted the ocean.	UAS

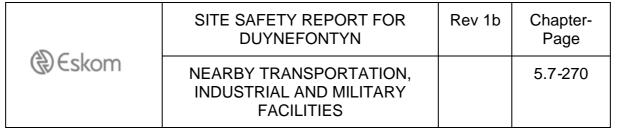
AD 5 1	SITE SAFETY REPORT FOR DUYNEFONTYN	Rev 1b	Chapter- Page
⊕ Eskom	NEARBY TRANSPORTATION, INDUSTRIAL AND MILITARY FACILITIES		5.7-269

Appendix F: Historical Data on External Fires in the Site Vicinity

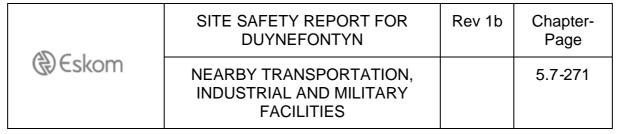
Table F.1

Fires recorded by the City of Cape Town Fire Department (January 2010 to March 2018)

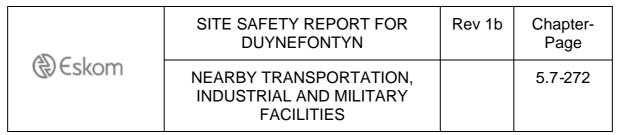
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
2010:	175				
1	F1001/3702	29-Jan-10	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1006/0228	03-Jun-10	BLAAUWBERGRANT	Transport Ships	Electronic/Electric Equipment And Gas/Oxycetaline Cylinders
1	F1011/1675	15-Nov-10	ATLANTIS	Other Rubbish, Grass & Bush	Small Area Of Vegetation
1	F1012/2001		ATLANTIS	Other Rubbish, Grass & Bush	Nul
1	F1012/2085		ATLANTIS	Other Rubbish, Grass & Bush	Nul
1	F1012/3371	27-Dec-10	ATLANTIS	Residential Formal	
1	F1001/2234	17-Jan-10	ATLANTIS	Residential Informal	8 Wood And Iron Structures
1	F1006/1853	20-Jun-10	ATLANTIS	Residential Informal	Wood & Iron Structure
1	F1008/1367	15-Aug-10	ATLANTIS	Residential Formal	Storage Articles And Implements
1	F1011/1155	11-Nov-10	ATLANTIS	Residential Formal	Bedroom, Living Room, Kitchen
1	F1008/0300	03-Aug-10	MELKBOSSTRAND	Residential Formal	Building And Contents
1	F1008/1761	20-Aug-10	PARKLANDS	Residential Formal	Thatch Roof
1	F1002/1197	11-Feb-10	TABLE VIEW	Residential Hotels & Boarding Houses	Insulating Materials And Wooden Construction In Roof Void.
1	F1005/0485	05-May-10	TABLE VIEW	Residential Formal	Garage Equipment And Electrical Appliances
1	F1005/1159	13-May-10	TABLE VIEW	Residential Formal	Bed, Bedding, Clothing, Personal Effects, Electrical Appliances And Ammunition
1	F1001/1255	09-Jan-10	ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass, Timber
1	F1001/1261	09-Jan-10	ATLANTIS	Other Rubbish, Grass & Bush	Average Area Of Bush And Grass
1	F1001/1358	10-Jan-10	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1001/1441	11-Jan-10	ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1001/1519	12-Jan-10	ATLANTIS	Other Rubbish, Grass & Bush	Area Of Vegetation
1	F1001/1536	12-Jan-10	ATLANTIS	Other Rubbish, Grass & Bush	Area Of Vegetation
1	F1001/1647	13-Jan-10	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1001/1699	13-Jan-10	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass.
1	F1001/1711	13-Jan-10	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass.
1	F1001/1730	13-Jan-10	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass.
1	F1001/1980	15-Jan-10	ATLANTIS	Other Rubbish, Grass & Bush	Area Of Vegetation
1	F1001/2229	17-Jan-10	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1001/2476	19-Jan-10	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1001/2526	20-Jan-10	ATLANTIS	Other Rubbish, Grass & Bush	Area Of Vegetation
1	F1001/3447	28-Jan-10	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1001/3511	28-Jan-10	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1001/3632	29-Jan-10	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1001/3895	30-Jan-10	ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Treestumps
1	F1002/0201	02-Feb-10	ATLANTIS	Other Rubbish, Grass & Bush	Area Of Vegetation
1	F1002/0225	03-Feb-10	ATLANTIS	Other Rubbish, Grass & Bush	Area Of Vegetation
1	F1002/0359	04-Feb-10	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass



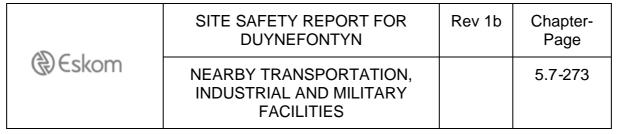
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1002/1121	10-Feb-10		Other Rubbish, Grass & Bush	Vegetation
1	F1002/1660		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1002/1813		ATLANTIS	Other Rubbish, Grass & Bush	Area Of Vegetation
1	F1002/2441		ATLANTIS	N/A	Grass And Tree Stumps
1	F1002/2489		ATLANTIS	N/A	Grass And Tree Stumps
1	F1002/2831		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1003/0004		ATLANTIS	Other Rubbish, Grass & Bush	Area Of Vegetation
1	F1003/0359		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1003/0735		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1003/1012		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1003/3193		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1003/3401		ATLANTIS	Other Rubbish, Grass & Bush	Area Of Treestumps
1	F1003/3516		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1003/3606	31-Mar-10	ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Treestumps
1	F1003/3632	31-Mar-10	ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Treestumps
1	F1005/0177	02-May-10	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation And Treestumps
1	F1010/0562	06-Oct-10	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1010/1412	15-Oct-10	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1010/1724	18-Oct-10	ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1010/2948	30-Oct-10	ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1011/0781	07-Nov-10	ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass & Rubbish
1	F1011/1656		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1011/1764		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1011/1866		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1011/1920		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1011/1937		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1011/2589		ATLANTIS	Other Rubbish, Grass & Bush	Medium Area Vegetation
1	F1011/3260		ATLANTIS	Other Rubbish, Grass & Bush	Bush &grass
1	F1012/0472		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1012/0519		ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Tyres
1	F1012/0726		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1012/0896		ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass, Rubbish, Tree Stumps
1	F1012/1195		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1012/1363		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1012/1545	1	ATLANTIS	Other Rubbish, Grass & Bush	Vegatation
1	F1012/1909		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1012/1922		ATLANTIS	Other Rubbish, Grass & Bush	Reeds
1	F1012/2557		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Vagetation
1	F1012/3580		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1012/3843		ATLANTIS INDUSTRIAL	Other Rubbish, Grass & Bush	Tree Branches
1	F1001/2740		BEACONHILL	Other Rubbish, Grass & Bush	Grass Vagetation
1	F1002/2178		BEACONHILL BLAAUWBERGSTRAND	Other Rubbish, Grass & Bush	Vegetation Bush And Grass
1	F1001/0492			Other Rubbish, Grass & Bush	
1	F1003/3421		BLOUBERGSTRAND	Other Rubbish, Grass & Bush	Bush And Grass
1	F1001/0401	U3-Jan-10	FRANKDALE	Other Rubbish, Grass & Bush	Large Area Of Grass



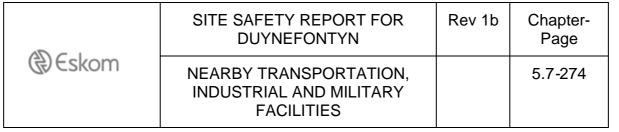
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1011/1772	16-Nov-10	FRANKDALE	Other Rubbish, Grass & Bush	Vegetation
1	F1011/2845		FRANKDALE	Other Miscellaneous Fires	Deep Seated Coal Ash
1	F1012/1401		FRANKDALE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1001/2532	20-Jan-10		Other Rubbish, Grass & Bush	Area Of Vegetation
1	F1001/2545	20-Jan-10	MAMRE	Other Rubbish, Grass & Bush	Vegetation
1	F1002/1232	11-Feb-10		Other Rubbish, Grass & Bush	Bush And Grass
1	F1002/1422	12-Feb-10	MAMRE	Other Rubbish, Grass & Bush	Grass And Branches
1	F1004/0076	01-Apr-10	MAMRE	Other Rubbish, Grass & Bush	Vegetation
1	F1004/0575	05-Apr-10	MAMRE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1004/2733	26-Apr-10	MAMRE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1008/1782	20-Aug-10	MAMRE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1010/2414	25-Oct-10	MAMRE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1012/0594	06-Dec-10	MAMRE	Other Rubbish, Grass & Bush	Vegetation
1	F1012/0893	08-Dec-10	MAMRE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1012/2592	21-Dec-10	MAMRE	Other Rubbish, Grass & Bush	Vegetation, Bush And Grass.
1	F1001/2219	17-Jan-10	MELKBOSSTRAND	Other Rubbish, Grass & Bush	Bush, Grass And Tree Stumps
1	F1001/2320	18-Jan-10	MORNINGSTAR	Other Rubbish, Grass & Bush	Bush And Grass
1	F1001/3046	24-Jan-10	MORNINGSTAR	Other Rubbish, Grass & Bush	Bush And Grass
1	F1002/1247	11-Feb-10	Morningstar	Other Rubbish, Grass & Bush	Bush And Grass
1	F1002/1558		MORNINGSTAR	Other Rubbish, Grass & Bush	Bush And Grass
1	F1011/2274	20-Nov-10	MORNINGSTAR	Other Rubbish, Grass & Bush	Large Area Of Bush And Grass
1	F1012/0720		MORNINGSTAR	Other Rubbish, Grass & Bush	Bush And Grass
1	F1012/2816	23-Dec-10		Other Rubbish, Grass & Bush	Bush And Grass
1	F1001/0530		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1001/1928		TABLE VIEW	Other Rubbish, Grass & Bush	Bush And Grass
1	F1001/3079		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1002/0715		TABLE VIEW	Other Rubbish, Grass & Bush	Reeds
1	F1002/3020		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1003/0287		TABLE VIEW	Other Rubbish, Grass & Bush	Bush, Grass And Reeds
1	F1003/1636		TABLE VIEW	Other Rubbish, Grass & Bush	Reeds
1	F1003/1753		TABLE VIEW	Other Rubbish, Grass & Bush	Bush And Grass
1	F1004/2834		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1010/1627		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1010/2505		TABLE VIEW	Other Rubbish, Grass & Bush	Bush And Grass
1	F1011/2120	i	TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1011/2761		TABLE VIEW	Other Rubbish, Grass & Bush	Extensive Area Of Bush And Grass
1	F1012/0081		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1012/1396		TABLE VIEW	Other Rubbish, Grass & Bush	Grass And Bush
1	F1001/1959		Tableview	Other Rubbish, Grass & Bush	Bush, Grass And Tree Stumps
1	F1001/0531	04-Jan-10		Other Rubbish, Grass & Bush	Bush And Grass
1	F1001/3288	26-Jan-10		Other Rubbish, Grass & Bush	Bush And Grass
1	F1001/3610	29-Jan-10		Other Rubbish, Grass & Bush	Average Area Of Grass
1	F1001/3648	29-Jan-10		Other Rubbish, Grass & Bush	Grass And Tyres
1	F1001/4016	31-Jan-10		Other Rubbish, Grass & Bush	Bush And Grass
1	F1002/0287	03-Feb-10		Other Rubbish, Grass & Bush	Vegetation



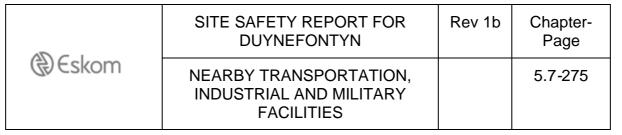
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1011/2812	25-Nov-10		Other Rubbish, Grass & Bush	Bush And Grass
1	F1001/1757		ATLANTIS	Industry Furniture	Manufacturing Equipment, Timber And Building
1	F1003/0105		ATLANTIS	Residential Informal	Entire 25wood&iron Strutures Severe By Fire, Heat, Smoke And Water.
1	F1012/1176		MELKBOSSTRAND	Residential Formal	Household Furniture And Personal Effects, Etc.
1	F1005/1620		PARKLANDS	Residential Formal	Bed, Bedding And Personal Effects, Etc.
1	F1001/3374	i	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1002/0035	01-Feb-10	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1002/2176	19-Feb-10	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1002/2313	20-Feb-10	ATLANTIS	N/A	Bush And Grass
1	F1003/0813	07-Mar-10	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1012/3583	29-Dec-10	ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Rubbish
1	F1002/3003	26-Feb-10	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Area Of Vegetation
1	F1001/1221	09-Jan-10	FRANKDALE	Other Rubbish, Grass & Bush	Extensive Area Of Bush And Grass
1	F1001/3646	29-Jan-10	MAMRE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1012/2337	19-Dec-10	PHILADELPHIA	Other Rubbish, Grass & Bush	Large Area Of Vegetation
1	F1001/1216	09-Jan-10	TABLE VIEW	Other Rubbish, Grass & Bush	Extensive Area Of Bush And Grass
1	F1002/2571	22-Feb-10	TABLE VIEW	Other Rubbish, Grass & Bush	Bush, Grass And Tree Stumps
1	F1011/1508	14-Nov-10	TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1011/1760	16-Nov-10	TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1006/2671		ATLANTIS	Transport Heavy Goods Vehicles	Electrical Wiring On Radiator Igniting
1	F1008/2322		ATLANTIS	Transport Cars & Motorcycles	Entire Motor Car
1	F1009/1423	i ·	ATLANTIS	Transport Cars & Motorcycles	One Minibus Taxi
1	F1011/1745		ATLANTIS	Transport Heavy Goods Vehicles	
1	F1012/2305		ATLANTIS	Transport Cars & Motorcycles	Interior Of Vehicle
1	F1003/2795		MELKBOSSTRAND	Transport Cars & Motorcycles	Motor Vehicle
1	F1004/1639		MELKBOSSTRAND	Transport Cars & Motorcycles	One Motorvehicle
1	F1008/2612		MELKBOSSTRAND	Transport Cars & Motorcycles	Soft Protection Cover Between Firewall And Engin Was Smuldering.
1	F1010/0094		MELKBOSSTRAND	Transport Buses	Mini-Bus Taxi Severly Damage By Fire
1	F1005/1563	i	TABLE VIEW	Transport Buses	Insulation Of Electrical Wiring In Engine Compartment And Upholstery In Cab Section Etc.
1	F1010/0570		TABLE VIEW	Transport Cars & Motorcycles	Entire Motor Vehicle
1	F1007/2477		WEST BEACH	Transport Cars & Motorcycles	Light Motor Vehicle.
1	F1002/0659		TABLE VIEW	Other Rubbish, Grass & Bush	Light Commercial Vehicle And Bush And Grass
1	F1001/1010	07-Jan-10		Other Rubbish, Grass & Bush	Vegetation
1	F1001/3497		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1002/3372		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1011/0474		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1011/2010		ATLANTIS	Other Rubbish, Grass & Bush	D. d. A. J. Const.
1	F1012/1250		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1012/2675		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1012/3732		ATLANTIS	Other Rubbish, Grass & Bush	D. J. A. J.O.
1	F1001/3287	26-Jan-10		Other Rubbish, Grass & Bush	Bush And Grass.
1	F1012/3451	i	TABLE VIEW	Other Rubbish, Grass & Bush	Cross
1	F1002/2839	24-Feb-10		Other Rubbish, Grass & Bush	Grass 5 Little Potted Container
1	F1006/1324		ATLANTIS	Commercial Garages & Workshops	5 Litre Petrol Container
1	F1012/3406	27-Dec-10	TABLE VIEW	Residential Formal	



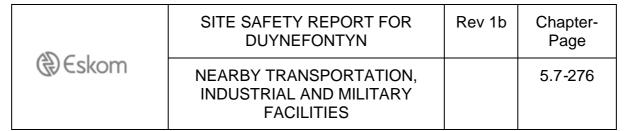
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1012/3510	28-Dec-10	ATLANTIS	11 A Occupancy	What Was Burning
1	F1012/3374		MORNINGSTAR		
1	F1012/3374		TABLE VIEW		
1	F1003/0320		ATLANTIS		
	F1012/3407	20-Dec-10	ATLANTIS		
2011:	164				
1	F1101/0488	04-Jan-11	PELLA	Other Rubbish, Grass & Bush	Trees And Vegetation
1	F1108/0408	06-Aug-11	PHILADELPHIA	Residential Formal	Bed, Bedding, Household Furniture And Personal Effects
1	F1102/2507	24-Feb-11	PHILADELPHIA	Other Agricultural	Electrical Transformer Was Arcing
1	F1110/1509	15-Oct-11	MELKBOSSTRAND	Commercial Shops	Wood And Iron Structure, Tables, Chairs, Electrical Appliances, Personal Effects
1	F1101/2981	24-Jan-11	ATLANTIS	Residential Formal	House Hold Furniture And Personal Effects
1	F1102/0919	09-Feb-11	ATLANTIS	Residential Informal	House Hold Furniture And Personal Effects
1	F1102/2089	20-Feb-11	ATLANTIS	Residential Informal	7 Wood & Iron Structures
1	F1105/2406	30-May-11	ATLANTIS	Residential Informal	Bed, Bedding, Household Furniture And Personal Affects, Etc.
1	F1112/2222	17-Dec-11	ATLANTIS	Residential Informal	Wood And Iron Structures
1	F1110/3180	30-Oct-11	PARKLANDS	Residential Flats	Dinning Room Furniture.
1	F1111/2868	22-Nov-11	SUNNINGDALE	Residential Formal	Insulation Of Electrical Wiring
1	F1101/0356	03-Jan-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1101/0481	04-Jan-11	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation & Rubbish
1	F1101/0695	06-Jan-11	ATLANTIS	Other Rubbish, Grass & Bush	
1	F1101/1166	10-Jan-11	ATLANTIS	N/A	Bush And Grass
1	F1101/1343	11-Jan-11	ATLANTIS	Other Rubbish, Grass & Bush	Grass And Reeds
1	F1101/1347	11-Jan-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1101/1351	11-Jan-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1101/1517	13-Jan-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1101/1672	14-Jan-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1101/2165	18-Jan-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1101/2232	19-Jan-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1101/2409	20-Jan-11	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1101/2417	20-Jan-11	ATLANTIS	Other Rubbish, Grass & Bush	Large Area Of Vegetation
1	F1101/2475	21-Jan-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1101/2617	22-Jan-11	ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1101/2670	22-Jan-11	ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1101/2805	23-Jan-11	ATLANTIS	N/A	Bush And Grass
1	F1101/3723	30-Jan-11	ATLANTIS	Other Rubbish, Grass & Bush	Small Area Of Vegetation
1	F1102/0915	09-Feb-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1102/1088	11-Feb-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1102/1665	16-Feb-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1102/1759	17-Feb-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1102/2329	22-Feb-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1103/0045	01-Mar-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1103/2485	14-Mar-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1103/2830	18-Mar-11	ATLANTIS	Other Rubbish, Grass & Bush	Tree Stumps
1	F1103/3158	20-Mar-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass, Speedboat And Outboardmotor
1	F1103/3170	20-Mar-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass



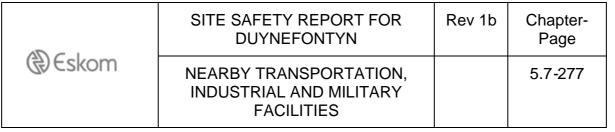
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1104/1690	18-Apr-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1104/1945		ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1105/0047		ATLANTIS	Other Rubbish, Grass & Bush	Tyres, Bush And Grass
1	F1105/1793	,	ATLANTIS	Other Rubbish, Grass & Bush	Sawdust
1	F1107/0530	i	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1107/1468		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Vegetation
1	F1108/0042		ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Treestumps
1	F1110/1094	i	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1110/1449		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1111/0039		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1111/1005		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1111/1604		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1111/2281		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation & Rubbish
1	F1111/2450	i	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation And Rubbish
1	F1111/2528	19-Nov-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1111/2862	22-Nov-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1111/3086	24-Nov-11	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1111/3230	25-Nov-11	ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1111/3334	26-Nov-11	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1111/3496	27-Nov-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1111/3616	28-Nov-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1112/0052	01-Dec-11	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1112/0263	02-Dec-11	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1112/0303		ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Treestumps
1	F1112/0499	04-Dec-11	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1112/0518		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1112/0653		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1112/0678		ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass, Treestumps
1	F1112/0799		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1112/0838		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation & Rubbish
1	F1112/1002		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1112/1054		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1112/1231		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1112/1803		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1112/2446	i	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1104/1426	•	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1111/2430		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Grass
1	F1111/2193		BEACON HILL	Other Rubbish, Grass & Bush	Grass
1	F1111/3452	i	BEACONHILL	Other Rubbish, Grass & Bush	Grass
1	F1111/3473		BEACONHILL	Other Rubbish, Grass & Bush	Bush And Grass
1	F1105/0663	,	BLAAUWBERG	Other Rubbish, Grass & Bush	Grass
1	F1101/2936		FRANKDALE	Other Rubbish, Grass & Bush	Bush Grass And Trees
1	F1102/1683		FRANKDALE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1102/2365		FRANKDALE	Other Rubbish, Grass & Bush	Vegetation
1	F1102/2881	27-Feb-11	FRANKDALE	Other Rubbish, Grass & Bush	Vegetation



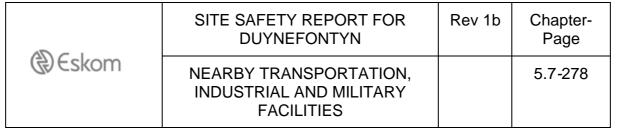
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1111/0298	03-Nov-11	FRANKDALE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1112/3171		FRANKDALE TIPSITE	Other Rubbish, Grass & Bush	Vegetation
1	F1101/1706		MAMRE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1103/3895		MAMRE	Other Rubbish, Grass & Bush	Bush & Grass
1	F1104/0513	06-Apr-11		Other Rubbish, Grass & Bush	Bush And Grass
1	F1104/0651	07-Apr-11		Other Rubbish, Grass & Bush	Bush And Grass
1	F1105/1380	17-May-11	I .	Other Rubbish, Grass & Bush	Grass
1	F1110/1346	13-Oct-11	•	Other Rubbish, Grass & Bush	Vegetation
1	F1111/0273	03-Nov-11		Other Rubbish, Grass & Bush	Vegetation
1	F1112/0336	03-Dec-11		Other Rubbish, Grass & Bush	Reeds, Bush And Treestumps
1	F1103/2265		MELKBOSSTRAND	Other Rubbish, Grass & Bush	Area Of Bush And Grass
1	F1112/3292		MELKBOSSTRAND	Other Rubbish, Grass & Bush	Bush And Grass
1	F1101/2007	17-Jan-11	MORNINGSTAR	Other Rubbish, Grass & Bush	Bush And Grass
1	F1112/1364	10-Dec-11	PARKLANDS	Other Rubbish, Grass & Bush	Tree Stumps And Bush
1	F1112/3951	31-Dec-11	PARKLANDS	Other Rubbish, Grass & Bush	Vegetation Fire
1	F1101/3603	29-Jan-11	PELLA	Other Rubbish, Grass & Bush	Grass And Treestumps
1	F1102/0909	09-Feb-11	PELLA	Other Rubbish, Grass & Bush	Reeds
1	F1102/1871	18-Feb-11	PELLA	Other Rubbish, Grass & Bush	Vegetation
1	F1103/4108	30-Mar-11	PELLA	Other Rubbish, Grass & Bush	Bush Grass And Reeds
1	F1111/2469	19-Nov-11	PELLA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1112/1609	12-Dec-11	PELLA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1112/3190	25-Dec-11	PELLA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1112/0476		PHILADELPHIA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1101/1402		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation Fire
1	F1101/2382		TABLE VIEW	Other Rubbish, Grass & Bush	Grass And Bush
1	F1102/1877		TABLE VIEW	Other Plantations & Forests	Vegetation/Bush And Grass
1	F1102/2124		TABLE VIEW	Other Rubbish, Grass & Bush	Grass And Reeds
1	F1103/0169		TABLE VIEW	N/A	Vegetation
1	F1104/0705		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1111/0252		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1111/0281		Table View	Other Rubbish, Grass & Bush	Bush And Grass
1	F1112/0492		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1112/0514		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1112/1228		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1112/1974		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1112/2674	i	TABLE VIEW	Other Rubbish, Grass & Bush	Reeds
1	F1112/2698		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1112/3910		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1101/2389	20-Jan-11	ATLANTIC	Other Rubbish, Grass & Bush	Vegetation
1	F1102/1854		ATLANTIS	Residential Informal	Wood And Iron Structures
1	F1102/2347		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1104/0483		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1111/0150		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Vegetation Push Cores And Bubblish
1	F1104/0682		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush, Grass And Rubbish
1	F1101/1294	11-Jan-11	FRANKDALE	Other Rubbish, Grass & Bush	Extensive Area Of Bush And Grass



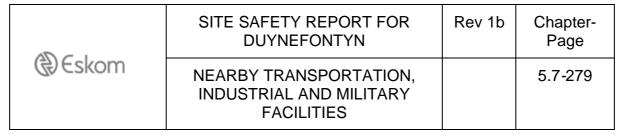
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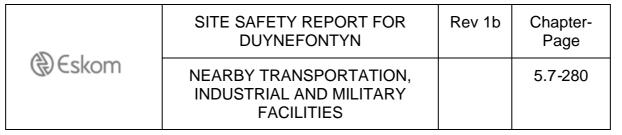
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_	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1206/0797		ATLANTIS	Residential Formal	
1	F1210/2033		ATLANTIS	Residential Informal	Household Implements And Bedding, Etc
1	F1211/3408		ATLANTIS	Residential Informal	One Wood & Iron Structure
1	F1212/1834		ATLANTIS	Residential Formal	Bed, Bedding And Personel Effects
1	F1207/0500		PARKLANDS	Residential Flats	Bed, Bedding And Personal Effects, Etc.
1	F1204/1454	·	TABLE VIEW	Residential Formal	Dwelling
1	F1201/1735		ATLANTIS	Storage Outside Storage	Various Items In Store Room
1	F1211/2995		MELKBOS	Residential Formal	Caravan And Tent Extension
1	F1201/0122		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1201/0482		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1201/0506		ATLANTIS	Other Rubbish, Grass & Bush	Rubbish And Grass
1	F1201/0665		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1201/1301		ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Rubbish
1	F1201/1344		ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Rubbish
1	F1201/1680		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1201/2250		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1201/2904		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1201/2937		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1201/2989		ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1201/3280		ATLANTIS	Other Rubbish, Grass & Bush	Rubbish & Vegetation
1	F1201/3334		ATLANTIS	Other Rubbish, Grass & Bush	Rubbish & Vegetation
1	F1202/0209		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1202/0229	02-Feb-12		Other Rubbish, Grass & Bush	Bush And Grass
1	F1202/0305		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1202/0346		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1202/1160		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1202/1573		ATLANTIS	Other Rubbish, Grass & Bush	Vegitation
1	F1202/1747		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1202/2389		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1202/2407		ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1202/2410		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1203/1117		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation & Rubbish
1	F1203/1140		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1203/1174	i	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation & Tree Stumps
1	F1203/1238	i	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1203/1895	i	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1203/1991		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1203/2916		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1204/1057	•	ATLANTIS	Other Rubbish, Grass & Bush	Large Areas Of Vegetation
1	F1204/1765	·	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1205/0632	,	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1210/2531		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1211/0180		ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1211/0192		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1211/0196	02-Nov-12	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass



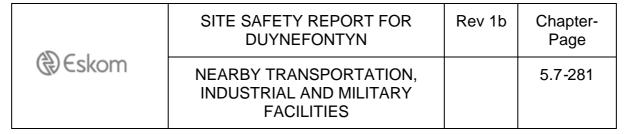
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1211/0214	02-Nov-12		Other Rubbish, Grass & Bush	Bush, Grass, Reeds
1	F1211/0225		ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1211/0525		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1211/0810		ATLANTIS	Other Rubbish, Grass & Bush	An Area Of Vegetation
1	F1211/0890		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1211/0921		ATLANTIS	Other Rubbish, Grass & Bush	Treestump
1	F1211/1180		ATLANTIS	Other Rubbish, Grass & Bush	Large Area Of Vegetation
1	F1211/1296		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation And Tree Stumps
1	F1211/1455		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1211/2231		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1211/2735		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1211/2745		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1211/2754		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1211/2791		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1211/2803	22-Nov-12	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1211/2828	22-Nov-12	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1211/3162	25-Nov-12	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1211/3395	27-Nov-12	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1211/3501	27-Nov-12	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1211/3515	28-Nov-12	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1211/3556	28-Nov-12	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1211/3580	28-Nov-12	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1211/3704		ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass, Tree Stumps
1	F1211/3740	29-Nov-12	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1211/3904	30-Nov-12	ATLANTIS	Other Rubbish, Grass & Bush	An Area Of Vegetation
1	F1212/0103	01-Dec-12	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1212/0511		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1212/0714		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation & Rubbish
1	F1212/0741		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1212/0746		ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1212/1315		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1212/1599		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1212/1855		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1212/2488		ATLANTIS	Other Rubbish, Grass & Bush	An Area Of Vegetation
1	F1212/2490		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1212/2535		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1212/2852		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1212/2920		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1212/3564		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1212/3665		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1202/0296		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1203/1149		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1203/2273		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Vegetation
1	F1203/2523		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Vegetation
1	F1204/1344	16-Apr-12	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush , Grass And Tree Stumps



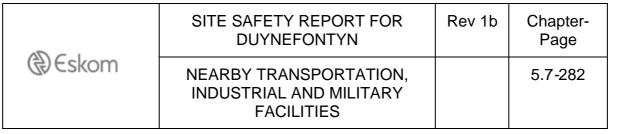
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1212/0825	06-Dec-12	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Vegetation
1	F1202/2544	21-Feb-12	ATLANTIS INDUSTRIAL	Other Rubbish, Grass & Bush	Bush And Grass
1	F1204/1589	19-Apr-12	BEACON HILL	Other Rubbish, Grass & Bush	Bush And Grass
1	F1201/2619	22-Jan-12	BEACONHILL	Other Rubbish, Grass & Bush	Bush And Grass
1	F1202/1056	09-Feb-12	BEACONHILL	Other Rubbish, Grass & Bush	Bush And Grass
1	F1203/2918	28-Mar-12	BEACONHILL	Other Rubbish, Grass & Bush	Bush And Grass
1	F1211/1434	11-Nov-12	BEACONHILL	Other Rubbish, Grass & Bush	Vegetation
1	F1211/3608	28-Nov-12	BEACONHILL	Other Rubbish, Grass & Bush	Bush And Grass
1	F1211/3869	30-Nov-12	BEACONHILL	Other Rubbish, Grass & Bush	Vegetation
1	F1201/0930	08-Jan-12	FRANKDALE	Other Rubbish, Grass & Bush	Vegetation
1	F1202/0739	06-Feb-12	FRANKDALE	Other Rubbish, Grass & Bush	Vegetation
1	F1202/1609	13-Feb-12	FRANKDALE	Other Rubbish, Grass & Bush	Vegetation
1	F1211/3573	28-Nov-12	FRANKDALE	Other Rubbish, Grass & Bush	Vegetaion
1	F1202/1454	12-Feb-12	MAMRE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1201/3140	27-Jan-12	MELKBOSSTRAND	Other Rubbish, Grass & Bush	Vegetation
1	F1201/3155	27-Jan-12	MELKBOSSTRAND	Other Rubbish, Grass & Bush	Bush And Grass
1	F1212/0540	04-Dec-12	MELKBOSSTRAND	Other Rubbish, Grass & Bush	Vegetation Fire
1	F1201/1083	09-Jan-12	MORNINGSTAR	Other Rubbish, Grass & Bush	Bush And Grass
1	F1205/2233	28-May-12	MORNINGSTAR	Other Rubbish, Grass & Bush	Treestumps And Branches
1	F1204/2056	24-Apr-12	PARKLANDS	Other Rubbish, Grass & Bush	Vegetation
1	F1201/2837	24-Jan-12	PELLA	Other Rubbish, Grass & Bush	Reeds
1	F1202/1569	13-Feb-12	PELLA	Other Rubbish, Grass & Bush	Vegetation
1	F1208/0797	09-Aug-12	PELLA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1212/2578	19-Dec-12	PELLA	Other Rubbish, Grass & Bush	Vegetation
1	F1201/0081	01-Jan-12	SUNNINGDALE	Other Rubbish, Grass & Bush	Vegetation Fire
1	F1201/0126	01-Jan-12	SUNNINGDALE	Other Rubbish, Grass & Bush	Vegetation Fire
1	F1201/2239	19-Jan-12	TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1202/0650	05-Feb-12	TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1202/0878	07-Feb-12	TABLE VIEW	Other Rubbish, Grass & Bush	Bush And Grass
1	F1202/1041	09-Feb-12	TABLE VIEW	Other Rubbish, Grass & Bush	Grass And Reeds
1	F1203/0884	08-Mar-12	TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1210/2642		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1211/1020		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1212/3680		TABLE VIEW	Other Rubbish, Grass & Bush	Bush, Grass And Reeds
1	F1212/3930		TABLE VIEW	Other Rubbish, Grass & Bush	Bush, Grass And Reeds
1	F1201/1524	13-Jan-12		Other Rubbish, Grass & Bush	Bush , Grass And Tree Stumps
1	F1201/1915	16-Jan-12		Other Rubbish, Grass & Bush	Reeds & Grass
1	F1201/1957	16-Jan-12		Other Rubbish, Grass & Bush	Grass
1	F1201/3002	26-Jan-12		Other Rubbish, Grass & Bush	Bush , Grass And Tree Stumps
1	F1203/2077	19-Mar-12		Other Rubbish, Grass & Bush	Vegetation
1	F1212/1405	11-Dec-12		Other Rubbish, Grass & Bush	Bush And Grass
1	F1212/1436	11-Dec-12		Other Rubbish, Grass & Bush	Bush And Grass
1	F1212/1526	12-Dec-12		Other Rubbish, Grass & Bush	Bush , Grass And Tree Stumps
1	F1204/1087		ATLANTIS	Storage Warehouses	Vegetation, Insulation Of Copper Wire, Wooden Pellets, And Factory Machinery Etc.
1	F1201/1924	16-Jan-12	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass



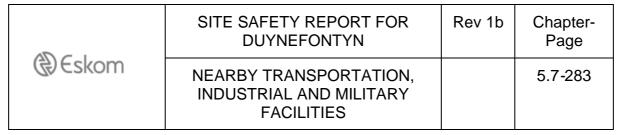
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1201/2924	25-Jan-12	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1201/3180		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1202/0720		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1203/1227		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1204/1050		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1210/2027		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1211/0666		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1211/3643		ATLANTIS	Other Rubbish, Grass & Bush	Vegataion
1	F1212/1421	11-Dec-12	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1212/1566		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1212/3430		ATLANTIS	N/A	Bush And Grass
1	F1201/0823		BEACONHILL	Other Rubbish, Grass & Bush	Bush And Grass
1	F1204/2050	24-Apr-12	DASSENBERG	Other Rubbish, Grass & Bush	Bush And Grass
1	F1211/3884	30-Nov-12	FRANKDALE	Other Rubbish, Grass & Bush	Vegetation
1	F1212/0079	01-Dec-12	FRANKDALE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1212/3467	26-Dec-12	KLEIN VISSERSHOK	Other Rubbish, Grass & Bush	Large Area Of Bush And Grass
1	F1201/3310	28-Jan-12	MELKBOSSTRAND	Other Rubbish, Grass & Bush	Bush & Grass
1	F1202/2503	21-Feb-12	MELKBOSSTRAND	Other Rubbish, Grass & Bush	Bush And Grass
1	F1212/2846	21-Dec-12	MELKBOSSTRAND	Other Rubbish, Grass & Bush	Vegetation And Rubbish Alight
1	F1212/2162	16-Dec-12	MORNINGSTAR	Other Rubbish, Grass & Bush	Vegetation
1	F1212/2221	16-Dec-12	MORNINGSTAR	Other Rubbish, Grass & Bush	Vegatation
1	F1212/0527	04-Dec-12	PELLA	Other Rubbish, Grass & Bush	Vegatation
1	F1202/0608	05-Feb-12	TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1202/1897	16-Feb-12	TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1211/0058	01-Nov-12	TABLE VIEW	Other Rubbish, Grass & Bush	Grass, Bush And Tree Stumps
1	F1211/2736	22-Nov-12	TABLE VIEW	Other Rubbish, Grass & Bush	Bush And Grass
1	F1202/0555	05-Feb-12	ATLANTIS	Transport Cars & Motorcycles	Contents In Boot
1	F1202/0833	07-Feb-12	ATLANTIS	Transport Cars & Motorcycles	
1	F1208/0448		ATLANTIS	Transport Cars & Motorcycles	
1	F1211/0014		ATLANTIS	Transport Cars & Motorcycles	Entire Motor Car
1	F1211/3118		ATLANTIS	Transport Others	Entire Caravan
1	F1203/2512		MELKBOSSTRAND	Transport Cars & Motorcycles	Motor Vehicle
1	F1204/0038		MELKBOSSTRAND	Transport Cars & Motorcycles	Dashboard And Engine
1	F1208/0703	i	MELKBOSSTRAND	Transport Cars & Motorcycles	
1	F1210/1401	i	MELKBOSSTRAND	Transport Cars & Motorcycles	Upholstery, Engin Compartment , Tyres, Bodywork
1	F1206/0149		PARKLANDS	Transport Cars & Motorcycles	Entire Engine Compartment.
1	F1211/2998		PARKLANDS	Transport Cars & Motorcycles	Entire Vehicle
1	F1203/1941		TABLE VIEW	Transport Cars & Motorcycles	Motor Vechile
1	F1204/2290	•	TABLE VIEW	Transport Cars & Motorcycles	Insulation Of Electrical Wiring, Plastic And Rubber Engine Components And Mouldings Etc.
1	F1205/1869	•	TABLE VIEW	Transport Cars & Motorcycles	Entire Motor Vehicle Severed By Fire
1	F1212/3248		TABLE VIEW	Transport Cars & Motorcycles	Entire Motor Vehicle
1	F1204/2444	•	WESFLEUR	Transport Cars & Motorcycles	Motorvehicle Engine Compartment
1	F1201/0699		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1201/0763		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1201/0806	07-Jan-12	ATLANTIS	Other Rubbish, Grass & Bush	



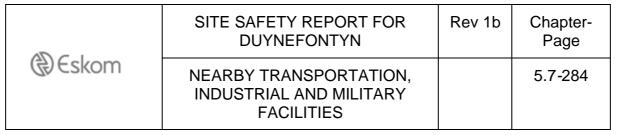
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1201/1035	09-Jan-12	ATLANTIS	Other Rubbish, Grass & Bush	Vegatation
1	F1202/1178		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1202/1221		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1202/1817		ATLANTIS	Other Rubbish, Grass & Bush	Rubbish
1	F1203/2200		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1203/2436		ATLANTIS	Other Rubbish, Grass & Bush	-9
1	F1208/0303		ATLANTIS	Other Rubbish, Grass & Bush	Rubber Pipes
1	F1208/0312		ATLANTIS	Other Miscellaneous Fires	Rubberised Piping And Branches
1	F1211/3462		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1212/0292		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1212/1678		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1212/1685		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1212/1689	13-Dec-12	ATLANTIS	Other Rubbish, Grass & Bush	
1	F1203/0945	08-Mar-12	ATLANTIS INDUSTRIA	Other Miscellaneous Fires	Tyres
1	F1202/1781	15-Feb-12	MAMRE	Other Rubbish, Grass & Bush	Vegetation
1	F1203/0163	02-Mar-12	MAMRE	Other Rubbish, Grass & Bush	Vegation
1	F1203/2503	24-Mar-12	MAMRE	Other Rubbish, Grass & Bush	Vegetation
1	F1201/0807	07-Jan-12	PELLA	Other Rubbish, Grass & Bush	
1	F1201/0764	07-Jan-12	TABLE VIEW	Other Rubbish, Grass & Bush	
1	F1211/0074	01-Nov-12	TABLE VIEW	Other Rubbish, Grass & Bush	
1	F1202/0365	04-Feb-12	ATLANTIS	Residential Informal	Wood And Iron Structure
2242	455				
2013:	155	00 5.1.40	ATLANTIC INIDIJOTOJA	Other ID I Link Open A D of	D. J. A. J. Over
1	F1302/0737	06-Feb-13	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush Institutional Educational	Bush And Grass
1	F1307/0579	12- lul-13	ATLANTIS	Establishments	Goods In Store Room
1	F1301/0064			Residential Formal	Coods in Giore Room
1	F1301/1977		ATLANTIS	Residential Informal	Bed, Bedding And Personal Affects, Etc.
1	F1304/0907		ATLANTIS	Residential Informal	Wood And Iron Structures (6)
1	F1307/0236		ATLANTIS	Residential Formal	Garage
1	F1307/0301		ATLANTIS	Residential Informal	2x Wood & Iron Structures
1	F1307/1399		ATLANTIS	Residential Informal	
1				i Residerilaninonnai	One Wood & Iron Structure Used As Dwelling
	F1308/1658			Residential Informal	One Wood & Iron Structure Used As Dwelling One Wood & Iron Structure @ Rear Of Dwelling
1	F1308/1658 F1310/0593	31-Aug-13	ATLANTIS	Residential Informal	
1		31-Aug-13 11-Oct-13			One Wood & Iron Structure @ Rear Of Dwelling
1 1 1	F1310/0593	31-Aug-13 11-Oct-13 06-Dec-13	ATLANTIS ATLANTIS	Residential Informal Residential Formal	One Wood & Iron Structure @ Rear Of Dwelling One Bedroom
1 1 1	F1310/0593 F1312/0436	31-Aug-13 11-Oct-13 06-Dec-13 17-Dec-13	ATLANTIS ATLANTIS ATLANTIS	Residential Informal Residential Formal Residential Informal	One Wood & Iron Structure @ Rear Of Dwelling One Bedroom Bed, Bedding And Personal Effects, Etc.
1 1 1 1	F1310/0593 F1312/0436 F1312/1562	31-Aug-13 11-Oct-13 06-Dec-13 17-Dec-13	ATLANTIS ATLANTIS ATLANTIS ATLANTIS ATLANTIS	Residential Informal Residential Formal Residential Informal Residential Formal	One Wood & Iron Structure @ Rear Of Dwelling One Bedroom Bed, Bedding And Personal Effects, Etc. Four Wood And Iron Structures At Rear Of Dwellings Beds And Bedding, etc.
1 1 1 1 1	F1310/0593 F1312/0436 F1312/1562 F1312/2898	31-Aug-13 11-Oct-13 06-Dec-13 17-Dec-13 31-Dec-13 14-Aug-13	ATLANTIS ATLANTIS ATLANTIS ATLANTIS ATLANTIS	Residential Informal Residential Formal Residential Informal Residential Formal Residential Formal	One Wood & Iron Structure @ Rear Of Dwelling One Bedroom Bed, Bedding And Personal Effects, Etc. Four Wood And Iron Structures At Rear Of Dwellings Beds And Bedding, etc. One Bedroom
1 1 1 1 1 1	F1310/0593 F1312/0436 F1312/1562 F1312/2898 F1308/0751	31-Aug-13 11-Oct-13 06-Dec-13 17-Dec-13 31-Dec-13 14-Aug-13 03-Jun-13	ATLANTIS ATLANTIS ATLANTIS ATLANTIS ATLANTIS MAMRE	Residential Informal Residential Formal Residential Informal Residential Formal Residential Formal Residential Formal	One Wood & Iron Structure @ Rear Of Dwelling One Bedroom Bed, Bedding And Personal Effects, Etc. Four Wood And Iron Structures At Rear Of Dwellings Beds And Bedding, etc. One Bedroom One Wood & Iron Structure
1 1 1 1 1 1 1	F1310/0593 F1312/0436 F1312/1562 F1312/2898 F1308/0751 F1306/0186	31-Aug-13 11-Oct-13 06-Dec-13 17-Dec-13 31-Dec-13 14-Aug-13 03-Jun-13 19-Aug-13 07-Jan-13	ATLANTIS ATLANTIS ATLANTIS ATLANTIS ATLANTIS ATLANTIS MAMRE PARKLANDS WEST BEACH ATLANTIS	Residential Informal Residential Formal Residential Informal Residential Formal Residential Formal Residential Formal Residential Formal	One Wood & Iron Structure @ Rear Of Dwelling One Bedroom Bed, Bedding And Personal Effects, Etc. Four Wood And Iron Structures At Rear Of Dwellings Beds And Bedding, etc. One Bedroom One Wood & Iron Structure Bed, Bedding And Personal Effects, Etc.
1 1 1 1 1 1 1 1	F1310/0593 F1312/0436 F1312/1562 F1312/2898 F1308/0751 F1306/0186 F1308/1045	31-Aug-13 11-Oct-13 06-Dec-13 17-Dec-13 31-Dec-13 14-Aug-13 03-Jun-13 19-Aug-13 07-Jan-13	ATLANTIS ATLANTIS ATLANTIS ATLANTIS ATLANTIS ATLANTIS MAMRE PARKLANDS WEST BEACH	Residential Informal Residential Formal Residential Informal Residential Formal Residential Formal Residential Formal Residential Formal Residential Formal	One Wood & Iron Structure @ Rear Of Dwelling One Bedroom Bed, Bedding And Personal Effects, Etc. Four Wood And Iron Structures At Rear Of Dwellings Beds And Bedding, etc. One Bedroom One Wood & Iron Structure Bed, Bedding And Personal Effects, Etc. Insulation Of Electrical Wiring, Furniture Appliances, Clothing, Personal Effects Etc.
1 1 1 1 1 1 1 1	F1310/0593 F1312/0436 F1312/1562 F1312/2898 F1308/0751 F1306/0186 F1308/1045 F1301/0839 F1301/0914 F1301/0917	31-Aug-13 11-Oct-13 06-Dec-13 17-Dec-13 31-Dec-13 14-Aug-13 03-Jun-13 19-Aug-13 07-Jan-13 08-Jan-13	ATLANTIS ATLANTIS ATLANTIS ATLANTIS ATLANTIS ATLANTIS MAMRE PARKLANDS WEST BEACH ATLANTIS ATLANTIS ATLANTIS	Residential Informal Residential Formal Residential Informal Residential Formal Residential Formal Residential Formal Residential Formal Residential Formal Cother Rubbish, Grass & Bush	One Wood & Iron Structure @ Rear Of Dwelling One Bedroom Bed, Bedding And Personal Effects, Etc. Four Wood And Iron Structures At Rear Of Dwellings Beds And Bedding, etc. One Bedroom One Wood & Iron Structure Bed, Bedding And Personal Effects, Etc. Insulation Of Electrical Wiring, Furniture Appliances, Clothing, Personal Effects Etc. Bush, Grass, Branches, Tree Stumps
1 1 1 1 1 1 1 1 1	F1310/0593 F1312/0436 F1312/1562 F1312/2898 F1308/0751 F1306/0186 F1308/1045 F1301/0839 F1301/0914	31-Aug-13 11-Oct-13 06-Dec-13 17-Dec-13 31-Dec-13 14-Aug-13 03-Jun-13 19-Aug-13 07-Jan-13 08-Jan-13	ATLANTIS ATLANTIS ATLANTIS ATLANTIS ATLANTIS ATLANTIS MAMRE PARKLANDS WEST BEACH ATLANTIS ATLANTIS	Residential Informal Residential Formal Residential Informal Residential Formal Residential Formal Residential Formal Residential Formal Residential Formal Cother Rubbish, Grass & Bush Other Rubbish, Grass & Bush	One Wood & Iron Structure @ Rear Of Dwelling One Bedroom Bed, Bedding And Personal Effects, Etc. Four Wood And Iron Structures At Rear Of Dwellings Beds And Bedding, etc. One Bedroom One Wood & Iron Structure Bed, Bedding And Personal Effects, Etc. Insulation Of Electrical Wiring, Furniture Appliances, Clothing, Personal Effects Etc. Bush, Grass, Branches, Tree Stumps Vegetation



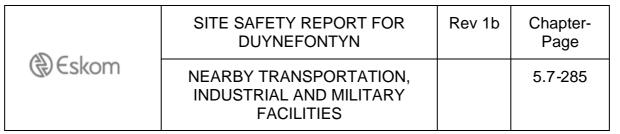
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1301/1473		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1301/1666		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1301/1669		ATLANTIS	Other Rubbish, Grass & Bush	Tree Stumps
1	F1301/1686		ATLANTIS	Other Rubbish, Grass & Bush	Rubbish Bush And Grass
1	F1301/1694		ATLANTIS	Other Rubbish, Grass & Bush	Tree Stumps, Vegetation
1	F1301/1737		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation Burned
1	F1301/1877		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1301/1987		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1301/2497		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1301/2540		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1301/2552		ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1301/2924		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1301/3288		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation And Reeds Etc.
1	F1301/3296		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1301/3368		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1302/0047		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1302/0053		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation Fire
1	F1302/0077		ATLANTIS	Other Rubbish, Grass & Bush	Bush & Grass
1	F1302/0218	02-Feb-13	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1302/0747	06-Feb-13	ATLANTIS	Other Rubbish, Grass & Bush	An Area Of Vegetation & Rubbish
1	F1302/0798	06-Feb-13	ATLANTIS	Other Rubbish, Grass & Bush	An Area Of Vegetation & Rubbish
1	F1302/1657	15-Feb-13	ATLANTIS	N/A	Bush And Grass
1	F1302/1758	16-Feb-13	ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Tree Stumps
1	F1302/1761	16-Feb-13	ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1302/1905	17-Feb-13	ATLANTIS	N/A	Bush And Grass
1	F1302/2138	20-Feb-13	ATLANTIS	N/A	Bush And Grass
1	F1303/0882	12-Mar-13	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1303/0886	12-Mar-13	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1304/1161		ATLANTIS	N/A	Tree Stumps
1	F1310/1250		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1311/0799		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1311/0837		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1311/1049		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1311/1083		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1311/1671		ATLANTIS	Other Rubbish, Grass & Bush	Bush , Grass And Rubbish
1	F1311/1809		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1311/1967		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1311/2157		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1312/0172		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1312/0188		ATLANTIS	Other Rubbish, Grass & Bush	Rubbish & Vegetation
1	F1312/0200		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation Fire
1	F1312/0398		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1312/0455		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1312/0461		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1312/0473	06-Dec-13	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass



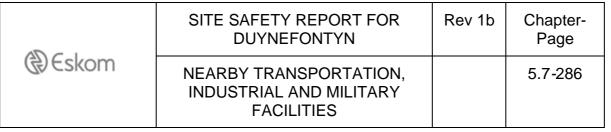
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1312/0567	07-Dec-13	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1312/0570		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1312/1123		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation & Rubbish
1	F1312/1142		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation & Rubbish
1	F1312/1540		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1312/1554	17-Dec-13		Other Rubbish, Grass & Bush	Vegetation
1	F1312/1773		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1312/1782		ATLANTIS	Other Rubbish, Grass & Bush	Duch Alia Grado
1	F1312/2232		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1312/2478		ATLANTIS	Other Rubbish, Grass & Bush	Rubbish & Vegetation
1	F1312/2867		ATLANTIS	Other Rubbish, Grass & Bush	Rubbish & Vegetation
1	F1301/1445	13-Jan-13		Other Rubbish, Grass & Bush	Vegetation
1	F1311/0820			Other Rubbish, Grass & Bush	Vegetation
1	F1312/0462		BEACONHILL	Other Rubbish, Grass & Bush	Bush And Grass
1	F1301/1256	11-Jan-13		Other Rubbish, Grass & Bush	Large Area Of Vegetation
1	F1301/0099		FRANKDALE	Other Rubbish, Grass & Bush	Vegetation
1	F1301/1489	13-Jan-13	FRANKDALE	Other Rubbish, Grass & Bush	Vegetation Fire
1	F1301/0104	01-Jan-13	MAMRE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1301/1345	12-Jan-13	MAMRE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1301/2294	20-Jan-13	MAMRE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1303/0579	07-Mar-13	MAMRE	Other Rubbish, Grass & Bush	Vegetation
1	F1311/2002	27-Nov-13	MAMRE	Other Rubbish, Grass & Bush	Vegetation
1	F1312/0051	01-Dec-13	MAMRE	Other Rubbish, Grass & Bush	Grass A Light
1	F1301/2280	20-Jan-13	MELKBOSSTRAND	Other Rubbish, Grass & Bush	Vegetation
1	F1312/1358	15-Dec-13	MELKBOSSTRAND	Other Rubbish, Grass & Bush	Bush And Grass
1	F1301/0141	01-Jan-13	MORNINGSTAR	Other Rubbish, Grass & Bush	Vegetation
1	F1301/2119	19-Jan-13	MORNINGSTAR	Other Rubbish, Grass & Bush	Vegetation
1	F1301/3360		PARKLANDS	Other Rubbish, Grass & Bush	Vegetation Fire
1	F1312/1901		PARKLANDS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1312/1910		PARKLANDS	Other Rubbish, Grass & Bush	Vegetation
1	F1312/2715	29-Dec-13	PARKLANDS	Other Rubbish, Grass & Bush	Vegetation
1	F1302/0159			Other Rubbish, Grass & Bush	Vegatation
1	F1303/0389	04-Mar-13		Other Rubbish, Grass & Bush	Vegetation & Rubbish
1	F1312/1763	19-Dec-13	PELLA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1301/1326		PHILADELPHIA	Other Rubbish, Grass & Bush	Grass
1	F1301/3263	28-Jan-13	PHILADELPHIA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1303/0175		PHILADELPHIA	Other Rubbish, Grass & Bush	Vegetation
1	F1312/0682		PHILADELPHIA	Other Rubbish, Grass & Bush	Vegetation
1	F1312/2167		SUNNINGDALE	Other Rubbish, Grass & Bush	
1	F1301/0799		TABLE VIEW	Other Rubbish, Grass & Bush	Bush And Grass
1	F1302/2603		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1301/2638		TABLEVIEW	Other Rubbish, Grass & Bush	Bush And Grass
1	F1305/1084	,	MORNINGSTAR	Residential Informal	Wood And Iron Structure
1	F1301/1674		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1301/1681	15-Jan-13	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass



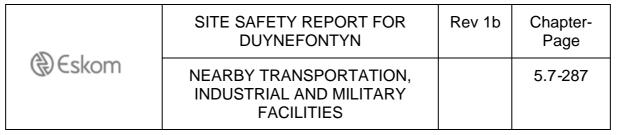
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1301/3252	28-Jan-13		Other Rubbish, Grass & Bush	Bush And Grass
1	F1301/3563		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1302/0449		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1302/1072		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1312/0599	07-Dec-13	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1301/2505	22-Jan-13	Frankdale	Other Rubbish, Grass & Bush	Vegetation
1	F1312/1676	18-Dec-13	MAMRE	Other Rubbish, Grass & Bush	Vegetation
1	F1301/1675	15-Jan-13	MELKBOSSTRAND	Other Rubbish, Grass & Bush	Vegetation
1	F1301/2926	26-Jan-13	MELKBOSSTRAND	Other Rubbish, Grass & Bush	Vegetation
1	F1303/2219	30-Mar-13	MELKBOSSTRAND	Other Rubbish, Grass & Bush	Extensive Area Of Vegetation And Large Quantity Of Rubbish
1	F1301/3267	28-Jan-13	MORNINGSTAR	Other Rubbish, Grass & Bush	Vegetation
1	F1302/0300	03-Feb-13	PELLA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1302/0351	03-Feb-13	PELLA	Other Rubbish, Grass & Bush	Bush & Grass
1	F1302/0625	05-Feb-13	SUNNYDALE	Other Rubbish, Grass & Bush	Reeds
1	F1302/0344	03-Feb-13	TABLE VIEW	Other Rubbish, Grass & Bush	Large Area Of Reeds Alight
1	F1302/1917	17-Feb-13	TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1312/2785	30-Dec-13	TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1309/1181	22-Sep-13	ATLANTIS	Residential Informal	Caravan
1	F1302/1617	15-Feb-13	ATLANTIS	Transport Heavy Goods Vehicles	
1	F1304/1664	28-Apr-13	ATLANTIS	Transport Cars & Motorcycles	Motorvehicle:toyota Coroola 1987 2l Turbo
1	F1306/0097	02-Jun-13	ATLANTIS	Transport Cars & Motorcycles	1xmotorvehicle
1	F1307/1444	28-Jul-13	ATLANTIS	Transport Others	Driver Cab
1	F1309/0981		ATLANTIS	Transport Heavy Goods Vehicles	Cab Of Truck
1	F1312/1991		ATLANTIS	Transport Cars & Motorcycles	Entire Motorvehicle Inculding Interior Consisting Of Seats, Rooflining And Carpets
1	F1307/0187		BLOUBERGRANT	Transport Cars & Motorcycles	Engine Compartment.
1	F1304/1089	· •	MELKBOSSTRAND	Transport Cars & Motorcycles	Engine Of Vehicle
1	F1305/1117	<u> </u>	MELKBOSSTRAND	Transport Cars & Motorcycles	Motorvehicle
1	F1307/0338		MELKBOSSTRAND	Transport Cars & Motorcycles	Engine Compartment
1	F1310/0096		MELKBOSSTRAND	Transport Cars & Motorcycles	Engine Compartment And Electrical Wiring
1	F1310/0514		MELKBOSSTRAND	Transport Cars & Motorcycles	Vehicle Alight
1	F1302/0133		PARKLANDS	Transport Cars & Motorcycles	Insulation Of Electrical Wiring Etc.
1	F1312/0069		PARKLANDS	Transport Cars & Motorcycles	Motor Vehicle
1	F1301/2139		TABLE VIEW	Transport Cars & Motorcycles	Engine Components And Electical Wiring.
1	F1312/0756		TABLE VIEW	Transport Cars & Motorcycles	Motor Vehicle
1	F1301/0145		ATLANTIS	Other Rubbish, Grass & Bush	Rubbish And Vegetation
1	F1301/3346		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1301/3348		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1302/2105		ATLANTIS	Other Rubbish, Grass & Bush	l v v v
1	F1310/1381		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1311/1529		ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1312/0162		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1312/0866		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1312/0913		ATLANTIS	Commercial Shops	
1	F1302/1543	14-Feb-13	BEACONHILL	Other Rubbish, Grass & Bush	



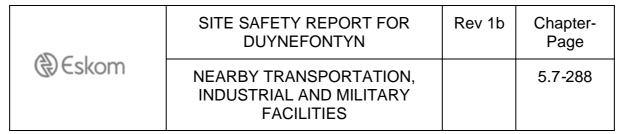
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
2014:	217			, ,	
1	F1403/0189	03-Mar-14	MAMRE	Other Rubbish, Grass & Bush	One Tree Stump
1	F1411/1135		MELKBOSSTRAND	Transport Cars & Motorcycles	Engine Compartment Of Vehicle.
1	F1410/2080	26-Oct-14	ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1411/0118	01-Nov-14	ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1410/2078	26-Oct-14	ATLANTIS	Residential Formal	
1	F1410/0707	11-Oct-14	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1401/1579	22-Jan-14	ATLANTIS	Residential Formal	Incomplete Two Storey Dwelling With Stored Contents
1	F1401/2034	26-Jan-14	ATLANTIS	Residential Informal	Wood And Iron Structures
1	F1402/0631	06-Feb-14	ATLANTIS	Residential Informal	Bed, Bedding, Personal Effects, Etc
1	F1402/1344	14-Feb-14	ATLANTIS	Residential Informal	Household Furniture, Etc.
1	F1405/0345	07-May-14	ATLANTIS	Residential Informal	One Wood And Iron Structure
1	F1405/0939	17-May-14	ATLANTIS	Residential Formal	Kitchen, Spread Through Entire Ceiling
1	F1405/1294	24-May-14	ATLANTIS	Residential Informal	3x Wood 7 Iron Structures Used As Dwelling
1	F1406/1124	20-Jun-14	ATLANTIS	Residential Informal	One Wood And Iron Structure
1	F1406/1274	23-Jun-14	ATLANTIS	Residential Informal	Bed, Bedding And Personal Effects, Etc
1	F1407/0051	01-Jul-14	ATLANTIS	Residential Formal	
1	F1407/0055	01-Jul-14	ATLANTIS	Residential Formal	Bed, Bedding, Cupboards, Clothing, Personnel Belongings
1	F1409/0530	09-Sep-14	ATLANTIS	Residential Formal	One Brick & Mortar Dwelling & Semi Detachedwood & Iron Structure
1	F1410/0527	08-Oct-14	ATLANTIS	Storage Outside Storage	Double Garrage
1	F1410/1840	24-Oct-14	ATLANTIS	Residential Informal	One Wood & Iron Structure Used As Dwelling
1	F1410/1844	24-Oct-14	ATLANTIS	Residential Informal	One Wood & Iron Structure Used As Dwelling
1	F1410/2261	28-Oct-14	ATLANTIS	Residential Formal	Household Furniture And Personal Effects Etc
1	F1411/0517	06-Nov-14	ATLANTIS	Residential Formal	Bedroom Of Dwelling
1	F1412/2267	18-Dec-14	MAMRE	Residential Informal	One Wood & Iron Structure Used As Dwelling
1	F1410/1332	19-Oct-14	PARKLANDS	Residential Formal	Bed, Bedding And Personal Effects, Etc.
1	F1411/0973	10-Nov-14	PARKLANDS	Residential Formal	Bed, Bedding, And Personal Effects, Etc Isulation In Electrical Wiring, Electrical Components
1	F1402/1299	14-Feb-14	TABLE VIEW	Residential Flats	Musical Instruments, Bed, Bedding, Personal Effects, Furniture And Appliances
1	F1401/0877	13-Jan-14	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1401/0920	13-Jan-14	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation And Rubbish
1	F1401/0925	13-Jan-14	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1401/1113	16-Jan-14	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1401/1516	21-Jan-14	ATLANTIS	Other Rubbish, Grass & Bush	Large Area Of Vegetation
1	F1401/1665	23-Jan-14	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation And Tree Stumps
1	F1401/1849	25-Jan-14	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1402/0254		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1402/0395		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1402/0442		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1402/0674		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1402/1315		ATLANTIS	Other Rubbish, Grass & Bush	An Area Of Vegetation
1	F1402/1558		ATLANTIS	Other Rubbish, Grass & Bush	Rubbish & Vegetation
1	F1402/1642		ATLANTIS	Other Rubbish, Grass & Bush	Rubbish And Sawdust
1	F1402/1786		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass



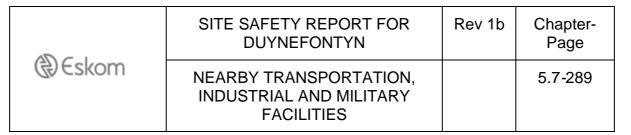
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1402/2192		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1402/2193		ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Tree Stumps
1	F1402/2382		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1403/0162		ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1403/0287		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation & Rubbish
1	F1403/0862		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1403/0952		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1404/1743		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1410/0328		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1410/2497		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1411/0044		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1411/0886		ATLANTIS	Other Rubbish, Grass & Bush	Bush , Grass And Treestumps
1	F1411/1009		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1411/1867		ATLANTIS	Other Rubbish, Grass & Bush	Bush & Grass
1	F1411/1886		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1411/1965	20-Nov-14		Other Rubbish, Grass & Bush	Bush And Grass
1	F1411/1984		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1411/2084		ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Rubbish
1	F1411/2573		ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Rubbish
1	F1411/2794		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1411/3030		ATLANTIS	Other Rubbish, Grass & Bush	Rubbish, Bush And Grass
1	F1412/0201		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1412/0220	02-Dec-14	ATLANTIS	Other Rubbish, Grass & Bush	
1	F1412/0674	05-Dec-14	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1412/1836	15-Dec-14	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1412/1894	15-Dec-14	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1412/2637	21-Dec-14	ATLANTIS	Other Rubbish, Grass & Bush	Large Area Of Vegetation
1	F1412/3241	26-Dec-14	ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1412/3532	29-Dec-14	ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Treestumps
1	F1412/3748	31-Dec-14	ATLANTIS	Other Rubbish, Grass & Bush	An Area Of Vegetation
1	F1401/1613	22-Jan-14	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush , Grass And Rubbish
1	F1411/1040	10-Nov-14	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1412/0192	02-Dec-14	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	An Area Of Vegetation
1	F1412/0357	03-Dec-14	ATLANTIS INDUSTRIA	N/A	Bush And Grass
1	F1412/0359	03-Dec-14	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1412/1852	15-Dec-14	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush, Grass And Rubbish
1	F1412/1898	15-Dec-14	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1412/3212	26-Dec-14	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Vegetation
1	F1412/3348	27-Dec-14	ATLANTIS INDUSTRIA	N/A	Bush And Grass
1	F1412/3431	28-Dec-14	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	An Area Of Vegetation
1	F1401/0483	05-Jan-14	BEACONHILL	Other Rubbish, Grass & Bush	Vegetation
1	F1401/0760	11-Jan-14	BEACONHILL	Other Rubbish, Grass & Bush	Rubbish & Vegetation
1	F1401/1680	23-Jan-14	BEACONHILL	Other Rubbish, Grass & Bush	Bush And Grass
1	F1410/1354	19-Oct-14	BEACONHILL	Other Rubbish, Grass & Bush	
1	F1410/1383	19-Oct-14	BEACONHILL	Other Rubbish, Grass & Bush	Bush And Grass



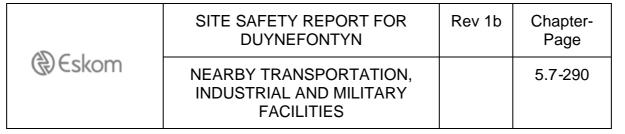
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1410/2136	27-Oct-14	BEACONHILL	Other Rubbish, Grass & Bush	Bush And Grass
1	F1412/1818		BEACONHILL	Other Rubbish, Grass & Bush	An Area Of Vegetation & Fyn Bos
1	F1412/3385		BEACONHILL	Other Rubbish, Grass & Bush	An Area Of Vegetation
1	F1402/1916		BIG BAY	Other Rubbish, Grass & Bush	Vegetation
1	F1402/2007		BIG BAY	Other Rubbish, Grass & Bush	Vegetation
1	F1412/3441	28-Dec-14	BIG BAY	Other Rubbish, Grass & Bush	Bush And Grass
<u> </u>	1 1412/3441	20-Dec-14	CAPE FARMS -	Other (Kubbish, Grass & Bush	Busii Aliu Giass
1	F1401/1654	23-Jan-14	ZOUTERIVIER	Other Rubbish, Grass & Bush	Bush , Grass And Tree Stumps
1	F1404/0443		FRANKDALE	Other Rubbish, Grass & Bush	Large Area Of Vegetaion
1	F1412/0307	03-Dec-14	FRANKDALE	Other Rubbish, Grass & Bush	Vegeation
1	F1412/1682		FRANKDALE	Other Rubbish, Grass & Bush	Vegetation
1	F1412/3511		FRANKDALE	Other Rubbish, Grass & Bush	Vegatation
1	F1401/1024		KLEIN DASSENBERG DRIVE	Other Rubbish, Grass & Bush	Tree Stumps
1	F1401/1274	18-Jan-14	MAMRE	Other Rubbish, Grass & Bush	Vegetation
1	F1402/0346	03-Feb-14	MAMRE	Other Rubbish, Grass & Bush	Vegetation
1	F1403/1031	12-Mar-14	MAMRE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1403/1868		MAMRE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1409/0604		MAMRE	Other Rubbish, Grass & Bush	Vegetation
1	F1402/1645		MELKBOSSTRAND	Other Rubbish, Grass & Bush	Bush And Grass And Tree Off Cuts
1	F1404/0457	08-Apr-14	MELKBOSSTRAND	Other Rubbish, Grass & Bush	Bush And Grass
1	F1412/0367	03-Dec-14	MELKBOSSTRAND	Other Rubbish, Grass & Bush	Vegetation
1	F1412/3486	29-Dec-14	MELKBOSSTRAND	Other Rubbish, Grass & Bush	Bush, Grass, Treestumps
1	F1401/1838	25-Jan-14	MORNINGSTAR	Other Rubbish, Grass & Bush	Bush, Grass And Treestumps
1	F1402/1540	16-Feb-14	MORNINGSTAR	Other Rubbish, Grass & Bush	Vegetation.
1	F1404/0472	08-Apr-14	MORNINGSTAR	Other Rubbish, Grass & Bush	Treestumps
1	F1401/2305	30-Jan-14	PARKLANDS	Other Rubbish, Grass & Bush	Vegetation.
1	F1402/1665	17-Feb-14	PARKLANDS	Other Rubbish, Grass & Bush	Vegetation Burned
1	F1403/0634	08-Mar-14	PARKLANDS	Other Rubbish, Grass & Bush	Reeds, Grass And Bush Etc
1	F1410/0338	05-Oct-14	PARKLANDS	Other Rubbish, Grass & Bush	Vegetation
1	F1411/0945	10-Nov-14	PARKLANDS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1411/1760	18-Nov-14	PARKLANDS	Other Rubbish, Grass & Bush	Vegatation
1	F1411/2053	21-Nov-14	PARKLANDS	Other Rubbish, Grass & Bush	Rubbish, Bush And Grass
1	F1412/0636	05-Dec-14	PARKLANDS	Other Rubbish, Grass & Bush	Vegetation
1	F1412/0810	06-Dec-14	PARKLANDS	Other Rubbish, Grass & Bush	Vegetation
1	F1412/1561	13-Dec-14	PARKLANDS	Other Rubbish, Grass & Bush	Vegetation
1	F1412/1953	16-Dec-14	PARKLANDS	Other Rubbish, Grass & Bush	Vegetation
1	F1412/1995	16-Dec-14	PARKLANDS	Other Rubbish, Grass & Bush	Reeds
1	F1412/2768	22-Dec-14	Parklands	Other Rubbish, Grass & Bush	Vegetation
1	F1401/2140	28-Jan-14	PELLA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1411/0284	02-Nov-14		Other Rubbish, Grass & Bush	Tree Stumps
1	F1411/2886	28-Nov-14		Other Rubbish, Grass & Bush	Bush And Grass
1	F1412/3232	26-Dec-14		Other Rubbish, Grass & Bush	Vegetation
1	F1401/1888		PHILADELPHIA	Other Rubbish, Grass & Bush	Bush, Grass And Treestumps
1	F1401/2059		PHILADELPHIA	Other Rubbish, Grass & Bush	
1	F1402/0503	05-Feb-14	PHILADELPHIA	Other Rubbish, Grass & Bush	Vegetation And Reeds



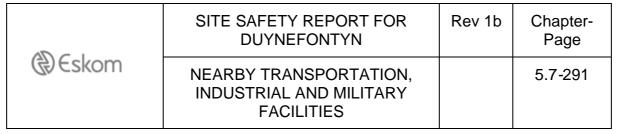
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1411/0049	01-Nov-14	SUNNINGDALE	Other Rubbish, Grass & Bush	Vegetation
1	F1412/2011		SUNNINGDALE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1412/2162		SUNNINGDALE	Other Rubbish, Grass & Bush	Vegetation
1	F1401/1594		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1402/0221		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1411/0720		TABLE VIEW	Other Rubbish, Grass & Bush	Reeds Alight
1	F1411/2864		Table View	Other Rubbish, Grass & Bush	Vegetation
1	F1412/0512		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1412/1154		TABLE VIEW	Other Rubbish, Grass & Bush	Bush, Grass, Reeds And Tree Stumps
1	F1412/2360		TABLE VIEW	Other Rubbish, Grass & Bush	Area Of Vegetation Measuring 155m X 80m
1	F1412/3398		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1401/2238	29-Jan-14		Other Rubbish, Grass & Bush	Vegetation
1	F1401/1814	25-Jan-14	ATLANTIS	Residential Informal	One Wood & Iron Structure & Contents
1	F1411/3019	29-Nov-14	ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass, Tree Stumps And Rubbish
1	F1412/3405	28-Dec-14	BEACONHILL	Other Rubbish, Grass & Bush	Rubbish & Vegetation
1	F1410/0622	10-Oct-14	ATLANTIS	Commercial Shops	Packet Of Baby Diapers
1	F1401/0951	14-Jan-14	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1401/0953	14-Jan-14	ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Treestumps
1	F1401/1273	18-Jan-14	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1402/0231		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1402/0588	06-Feb-14	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1403/0846		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1411/1121		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1412/1462		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1412/1676		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1412/3538		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1411/2569		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush , Grass And Treestumps
1	F1412/2018		FRANKDALE	Other Rubbish, Grass & Bush	Vegetation
1	F1401/1954	26-Jan-14		Other Rubbish, Grass & Bush	Vegetation
1	F1401/2147	28-Jan-14		Other Rubbish, Grass & Bush	Vegetation
1	F1412/3239		MELKBOSCHPLAAS	Other Agricultural	Bush & Grass As Well As Wheat Stubble Fields
1	F1411/2324		PARKLANDS	Other Rubbish, Grass & Bush	Vegetation
1	F1403/0890	10-Mar-14	i	Other Rubbish, Grass & Bush	Bush, Grass, Treestumps
1	F1411/1654		PHILADELPHIA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1412/3325	i	PHILADELPHIA	Other Rubbish, Grass & Bush	Farmland And Haystack
1	F1402/0233		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation And Reeds
1	F1402/0403		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1403/1554	18-Mar-14		Transport Others	Caravan Parked On Premises
1	F1401/0413		ATLANTIS	Transport Cars & Motorcycles	Car
1	F1402/0304		ATLANTIS	Transport Cars & Motorcycles	Motorvehicle
1	F1402/0578		ATLANTIS	Transport Heavy Goods Vehicles	Wheels At Rear Of Truck
1	F1404/1352		ATLANTIS	Transport Cars & Motorcycles	Motor Vehicle
1	F1407/1263		ATLANTIS	Transport Cars & Motorcycles	Foreign Commentment
1	F1403/2178		BLAAUWBERGRANT	Transport Cars & Motorcycles	Engine Compartment
1	F1407/1375	25-Jul-14	MELKBOSSTRAND	Transport Cars & Motorcycles	Motor Vehicle



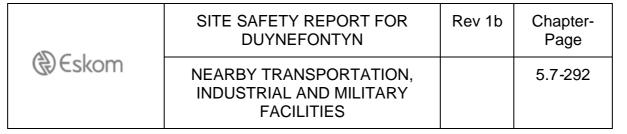
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1412/3373	28-Dec-14	MELKBOSSTRAND	Transport Cars & Motorcycles	1 X Motor Vehicle
1	F1504/0645	09-Apr-15	MELKBOSSTRAND	Transport Heavy Goods Vehicles	Entire Cab And Engine Compartment Destroyed By Fire
1	F1408/0949	17-Aug-14	PARKLANDS	Transport Heavy Goods Vehicles	Electrical Wire And Dash Board.
1	F1410/2518	31-Oct-14	PARKLANDS	Transport Cars & Motorcycles	Vehicle
1	F1411/0038	01-Nov-14	PARKLANDS	Transport Cars & Motorcycles	Engine Compartment
1	F1402/1895	20-Feb-14	TABLE VIEW	Transport Cars & Motorcycles	Engine Comparment
1	F1404/0720	12-Apr-14	TABLE VIEW	Transport Others	Front Right Cv Boot
1	F1406/0279	05-Jun-14	TABLE VIEW	Transport Cars & Motorcycles	Engine And Passenger Compartment.
1	F1407/0967	17-Jul-14	TABLE VIEW	Transport Cars & Motorcycles	Motor Vehicle-Entire Engine Compartment
1	F1408/1326	24-Aug-14	TABLE VIEW	Transport Cars & Motorcycles	Electrical Insulation.
1	F1408/1659	31-Aug-14	TABLE VIEW	Transport Cars & Motorcycles	Engine Of Motor Vehicle
1	F1409/0346	06-Sep-14	TABLE VIEW	Transport Cars & Motorcycles	Vehicle
1	F1411/1862	19-Nov-14	TABLE VIEW	Transport Heavy Goods Vehicles	Back Rear Tyres Of Container Truck
1	F1412/2100	17-Dec-14	TABLE VIEW	Transport Heavy Goods Vehicles	Cab Of Truck
1	F1412/2129	17-Dec-14	TABLE VIEW	Transport Heavy Goods Vehicles	Engine Compartment
1	F1412/3758		TABLE VIEW	Transport Cars & Motorcycles	Entire Motor Vehicle
1	F1401/2415		ATLANTIS	Transport Others	One Caravan And Vegetation
1	F1408/0917	16-Aug-14	ATLANTIS INDUSTRIA	Transport Cars & Motorcycles	Electrical Distribution Box, 3xmotor Cars, 2xhorse Trailers, Carport And Security Hut
1	F1406/1383		ATLANTIS	Transport Heavy Goods Vehicles	Rear Right Tyre
1	F1402/1547		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1404/0371	07-Apr-14	ATLANTIS	Other Plantations & Forests	
1	F1404/0556	10-Apr-14	ATLANTIS	Other Rubbish, Grass & Bush	
1	F1404/0571		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1404/0939		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1410/1772		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1410/2077		ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1412/1222		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1412/1231		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1412/1547		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1412/1577		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1411/1087	11-Nov-14		Other Rubbish, Grass & Bush	
1	F1412/1211		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	
1	F1412/1225		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	
1	F1412/1671		BEACONHILL	Other Rubbish, Grass & Bush	Bush And Grass
1	F1404/0446		FRANKDALE	Other Miscellaneous Fires	Copper Wire In Piles
1	F1412/3779		FRANKDALE	Other Rubbish, Grass & Bush	Vegetation
1	F1412/0920	07-Dec-14		Other Rubbish, Grass & Bush	Vegetation
1	F1402/0636	07-Feb-14		Other Rubbish, Grass & Bush	
1	F1409/0524	09-Sep-14	•	Other Rubbish, Grass & Bush	
1	F1401/2003		ATLANTIS	Residential Informal	Wood And Iron Structure
1	F1410/2117	27-Oct-14	ATLANTIS	Residential Informal	Bed, Bedding And Household Effects, Etc.
2015:	246				
1	F1506/0185	04lun-15	ATLANTIS	Industry Metal	Extractor Fan
1	F1512/2969		TABLE VIEW	Residential Formal	Bed, Bedding And Personal Effects



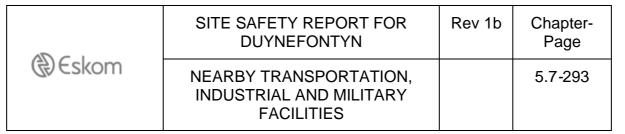
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1505/1652		ATLANTIS	Transport Buses	Engine Oil
1	F1510/0305		SUNNINGDALE	Other Rubbish, Grass & Bush	
1	F1509/1372		PARKLANDS	Other Rubbish, Grass & Bush	Vegetation
1	F1503/0215	·	PARKLANDS	Commercial Restaurants & Cafes	Building And Content
1	F1506/1591	29-Jun-15	ATLANTIS	Industry Metal	Conveyor Belt, Machines, Hydraulic Fluid Cables And Rubber Seals
1	F1505/0918	13-May-15	ATLANTIS INDUSTRIA	Industry Textile	Clothing Machinery And Ldv Etc
1	F1507/1122	21-Jul-15	ATLANTIS INDUSTRIA	Industry Metal	
1	F1506/1374	26-Jun-15	ATLANTIS	Residential Informal	Wood And Iron Structure
1	F1504/2133	28-Apr-15	ATLANTIS	Residential Informal	Wood And Iron Structure
1	F1503/2218	26-Mar-15	ATLANTIS	Residential Informal	Bed, Bedding And Personal Effects
1	F1507/0646	13-Jul-15	ATLANTIS	Residential Informal	Household Furniture And Personal Effects Etc
1	F1507/0747	15-Jul-15	ATLANTIS	Residential Informal	Wood And Iron Strutures
1	F1508/1268	22-Aug-15	ATLANTIS	Residential Informal	2x Wood And Iron Structures
1	F1511/1509	06-Nov-15	ATLANTIS	Residential Formal	Garage Aliht
1	F1512/1049	10-Dec-15	ATLANTIS	Residential Formal	Wood And Iron Structure And Bedroom At Side
1	F1503/0452	05-Mar-15	BLAAUWBERGSTRAND	Residential Formal	Household Furniture And Personal Effects, Etc
1	F1507/1365	26-Jul-15	MAMRE	Residential Formal	Bed , Bedding , Household Furniture And Personal Effects
1	F1508/0571	09-Aug-15		Residential Formal	Bed , Bedding , Prepaid Electrical Box , Cupboards And Personal Effects
1	F1512/0700	07-Dec-15	MAMRE	Residential Formal	Dwelling
1	F1502/0761		MELKBOSSTRAND	Residential Formal	Double Garage And Two Motorvehicles
1	F1505/0095	02-May-15	MELKBOSSTRAND	Residential Formal	Roof And Roofing Timbers, Etc.
1	F1507/0985		MELKBOSSTRAND	Residential Formal	Household Furniture And Personal Effects, Etc.
1	F1508/1529		PARKLANDS	Residential Formal	Section Of Outside Wall, Roof Ect
1	F1507/1113		PARKLANDS	Residential Formal	Bed, Bedding And Personal Effectts
1	F1506/1493		WEST BEACH	Residential Formal	Household Furniture And Personal Effects, Etc.
1	F1501/0249		ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1501/0349		ATLANTIS	Other Rubbish, Grass & Bush	An Area Of Vegetation
1	F1501/0372		ATLANTIS	Other Rubbish, Grass & Bush	An Area Of Vegetation
1	F1501/0474		ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Tree Stumps
1	F1501/0589		ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Tree Stumps
1	F1501/0747		ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1501/1057		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1501/1177		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Vegetation
1	F1501/1848		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1501/1857		ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1501/2922		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1502/0085		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1502/0423		ATLANTIS	N/A	Bush And Grass
1	F1502/0425		ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Treestumps
1	F1502/0837		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1502/0933		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1502/0951		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1502/1050		ATLANTIS	Other Rubbish, Grass & Bush	Vegatation
1	F1502/1654		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1502/1730	17-Feb-15	ATLANTIS	N/A	Bush And Grass



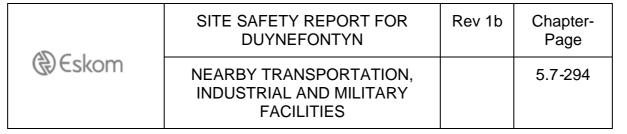
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1502/2165	21-Feb-15	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1502/2272		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1503/0345		ATLANTIS	Other Rubbish, Grass & Bush	Rubbish, Bush And Grass
1	F1503/0587		ATLANTIS	Other Rubbish, Grass & Bush	Vegatation
1	F1504/1659		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1504/1725		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1505/1394	21-May-15		Other Rubbish, Grass & Bush	Bush And Grass
1	F1507/0338	,	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1507/0766		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1507/1112		ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1508/1155		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1509/1422		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1510/1936	·	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1511/1140		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1511/1153		ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Treestumps
1	F1511/1469	06-Nov-15	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1511/1737	08-Nov-15	ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1511/2012	11-Nov-15	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1511/2542	16-Nov-15	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1511/2556	16-Nov-15	ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1511/2810	19-Nov-15	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1511/3307	24-Nov-15	ATLANTIS	Other Rubbish, Grass & Bush	Bush & Grass
1	F1511/4110	30-Nov-15	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation And Heaps Of Tree Cuttings.
1	F1512/0311	04-Dec-15	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1512/0430	05-Dec-15	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1512/2261	22-Dec-15	ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass, Rubbish And Saw Dust
1	F1512/2665	26-Dec-15	ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Treestumps
1	F1512/3155	30-Dec-15	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1501/1252	12-Jan-15	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1501/1448	14-Jan-15	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush, Grass Vegetation And Tree Stumps
1	F1502/1278	13-Feb-15	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Vegatation
1	F1502/1381	14-Feb-15	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Vegetation & Rubbish
1	F1502/1749	17-Feb-15	ATLANTIS INDUSTRIA	N/A	Bush And Grass
1	F1502/1992	20-Feb-15	ATLANTIS INDUSTRIA	N/A	Bush And Grass
1	F1503/0393	04-Mar-15	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Anarea Of Vegetation
1	F1503/0469	05-Mar-15	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1503/0818	09-Mar-15	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Vegetation
1	F1510/1943		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Vegetation
1	F1511/2883	i	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush, Grass, Treestumps
1	F1511/3644		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush, Grass And Treestumps
1	F1512/1026		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1512/2960		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1512/3034		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Vegetation
1	F1503/2680		BEACONHILL	Other Rubbish, Grass & Bush	Bush And Grass
1	F1510/1856	26-Oct-15	BEACONHILL	Other Rubbish, Grass & Bush	Vegetation



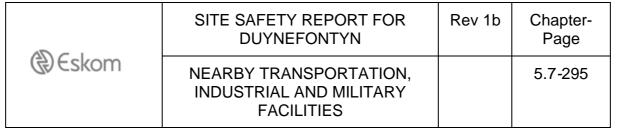
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1512/0693	07-Dec-15	BEACONHILL	Other Rubbish, Grass & Bush	Bush And Grass
1	F1512/0773		BEACONHILL	Other Rubbish, Grass & Bush	Bush And Grass
1	F1512/1007		BEACONHILL	Other Rubbish, Grass & Bush	Bush And Grass
1	F1503/0749	08-Mar-15		Other Rubbish, Grass & Bush	Bush And Grass
1	F1511/3536		BIG BAY	Other Rubbish, Grass & Bush	Vegetation
<u> </u>	1 1011//0000	201107 10	CAPE FARMS -	Carlot [Tabblett, Clade & Bacti	Vogotation
1	F1503/0389	04-Mar-15	ZOUTERIVIER	Other Rubbish, Grass & Bush	Smouldering Tree Stumps
1	F1501/0913	09-Jan-15	FRANKDALE	Other Rubbish, Grass & Bush	Meduim Area Of Vegetation Alight.
1	F1501/2252	22-Jan-15	FRANKDALE	Other Rubbish, Grass & Bush	Bush, Grass, Rubbish
1	F1502/0087	01-Feb-15	Frankdale	Other Rubbish, Grass & Bush	Vegetation
1	F1511/4116	30-Nov-15	FRANKDALE	Other Rubbish, Grass & Bush	Vegetation
1	F1501/0081	01-Jan-15	MAMRE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1501/2427	24-Jan-15	MAMRE	Other Rubbish, Grass & Bush	Vegetation
1	F1502/1755	17-Feb-15	MAMRE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1503/0822	09-Mar-15	MAMRE	Other Rubbish, Grass & Bush	Bush & Grass
1	F1503/1139	13-Mar-15	MAMRE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1511/2541	16-Nov-15	MAMRE	Other Rubbish, Grass & Bush	Vegetation
1	F1511/2648	17-Nov-15	MELKBOS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1511/4078	30-Nov-15	MELKBOS	Other Rubbish, Grass & Bush	Large Area Of Vegetation
1	F1501/2548	25-Jan-15	MELKBOSSTRAND	Other Rubbish, Grass & Bush	Vegetation
1	F1507/1179	22-Jul-15	MELKBOSSTRAND	Other Rubbish, Grass & Bush	Tree Offcuts
1	F1511/3629	27-Nov-15	MELKBOSSTRAND	Other Rubbish, Grass & Bush	Bush & Grass
1	F1512/0201	03-Dec-15	MELKBOSSTRAND	Other Rubbish, Grass & Bush	Large Area Of Bush And Grass Burned
1	F1512/1210	12-Dec-15	MELKBOSSTRAND	Other Rubbish, Grass & Bush	Vegetation
1	F1501/0461	04-Jan-15	MORNINGSTAR	Other Rubbish, Grass & Bush	Bush, Grass And Tree Stumps
1	F1502/0712	07-Feb-15	MORNINGSTAR	Other Rubbish, Grass & Bush	Bush, Grass And Vegetation
1	F1504/0788	11-Apr-15	MORNINGSTAR	Other Rubbish, Grass & Bush	Vegetation
1	F1511/2884	19-Nov-15	MORNINGSTAR	Other Rubbish, Grass & Bush	Vegetation
1	F1511/3125	22-Nov-15	MORNINGSTAR	Other Rubbish, Grass & Bush	Bush And Grass
1	F1511/3648	27-Nov-15	MORNINGSTAR	Other Rubbish, Grass & Bush	Vegetation
1	F1512/0047	01-Dec-15	MORNINGSTAR	Other Rubbish, Grass & Bush	Vegetation
1	F1501/0647	0 6 -Jan-15	PARKLANDS	Other Rubbish, Grass & Bush	Vegetation
1	F1501/0722	07-Jan-15	PARKLANDS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1501/0978	09-Jan-15	PARKLANDS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1501/1755	17-Jan-15	Parklands	Other Rubbish, Grass & Bush	Vegetation
1	F1501/2434		PARKLANDS	Other Rubbish, Grass & Bush	Bush & Grass
1	F1501/2930	29-Jan-15	PARKLANDS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1501/2942	29-Jan-15	PARKLANDS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1501/3045	30-Jan-15	PARKLANDS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1502/1404		PARKLANDS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1503/0297	03-Mar-15	PARKLANDS	Other Rubbish, Grass & Bush	Vegetation And Tree Stumps
1	F1503/1063	12-Mar-15	PARKLANDS	Other Rubbish, Grass & Bush	Vegeation
1	F1503/1532		PARKLANDS	Other Rubbish, Grass & Bush	Vegetation
1	F1504/2031		PARKLANDS	Other Rubbish, Grass & Bush	Vegetation
1	F1506/0812	14-Jun-15	PARKLANDS	Other Rubbish, Grass & Bush	Vegetation



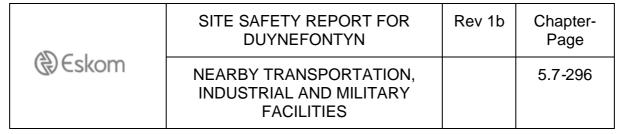
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1511/3620	27-Nov-15	PARKLANDS	Other Rubbish, Grass & Bush	Vegatation And Tree Off Cuts
1	F1511/3805		PARKLANDS	Other Rubbish, Grass & Bush	Large Area Of Vegetation
1	F1511/4122		PARKLANDS	Other Rubbish, Grass & Bush	Vegetation
1	F1502/2583	26-Feb-15		N/A	Bush And Grass
1	F1504/1182	17-Apr-15		Other Rubbish, Grass & Bush	Bush And Grass
1	F1501/3019		PHILADELPHIA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1503/0340	03-Mar-15		Other Rubbish, Grass & Bush	Bush, Grass And Treestumps
1	F1512/2069		PHILADELPHIA	Other Rubbish, Grass & Bush	Reeds
1	F1501/1919		SUNNINGDALE	Other Rubbish, Grass & Bush	Bush, Grass And Tyres
1	F1501/2268	22-Jan-15		Other Rubbish, Grass & Bush	Bush And Grass
1	F1502/2727		SUNNINGDALE	Other Rubbish, Grass & Bush	Vegetation
1	F1511/1334	05-Nov-15	SUNNINGDALE	Other Rubbish, Grass & Bush	Area Of Grass And Reeds
1	F1501/1617	15-Jan-15	TABLE VIEW	N/A	Bush And Grass
1	F1501/2574	25-Jan-15	TABLE VIEW	Other Rubbish, Grass & Bush	Reeds And Vegetation
1	F1502/0166	02-Feb-15	TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1502/0632	06-Feb-15	TABLE VIEW	Other Rubbish, Grass & Bush	Grass And Reeds
1	F1502/1229	12-Feb-15	TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1502/1271	13-Feb-15	TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1502/1367	14-Feb-15	TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1502/1627	16-Feb-15	TABLE VIEW	Other Rubbish, Grass & Bush	Bush & Grass
1	F1503/1511	17-Mar-15	TABLE VIEW	Other Rubbish, Grass & Bush	Bush, Grass And Reeds
1	F1503/2090	24-Mar-15	TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1503/2541		TABLE VIEW	Other Rubbish, Grass & Bush	Reeds And Vegetation
1	F1504/0276		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation And Reeds
1	F1504/0775	11-Apr-15	TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1504/2012		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1511/1396		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1511/1614		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation.
1	F1511/4086		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1512/1557		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1512/3220		TABLE VIEW	Other Rubbish, Grass & Bush	Grass And Reeds
1	F1508/0892	15-Aug-15		Residential Formal	Bed , Bedding , Personal Effects , Kitchen Cupboards Etc.
1	F1512/0681		ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Rubbish
1	F1512/2898		ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Rubbish
1	F1510/2013		ATLANTIS INDUSTRIA	Industry Metal	Machinery, Carton And Raw Material
1	F1501/0633		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1501/0952		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1501/1465		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1502/0582		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1503/0546		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1510/1923		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1512/2823		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1501/1399		FRANKDALE	Other Rubbish, Grass & Bush	Bush And Grass.
1	F1501/1966	19-Jan-15		Other Rubbish, Grass & Bush	Bush And Grass
1	F1511/4057	30-Nov-15	MELKBOS	Other Rubbish, Grass & Bush	Bush And Grass Burned



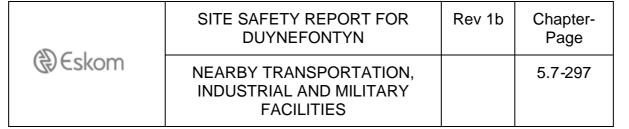
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1512/2674	26-Dec-15	MELKBOS	Other Rubbish, Grass & Bush	Vegetation
1	F1511/3242		MELKBOSSTRAND	Other Rubbish, Grass & Bush	Bush And Grass
1	F1511/3411		MELKBOSSTRAND	Other Rubbish, Grass & Bush	Large Area Of Vegetation
1	F1511/3218		MELKBOSTRAND	Other Rubbish, Grass & Bush	Vegetation
1	F1501/0256		MORNINGSTAR	Other Rubbish, Grass & Bush	Vegatation
1	F1511/3319		MORNINGSTAR	Other Rubbish, Grass & Bush	Vegetation.
1	F1511/3403		MORNINGSTAR	Other Rubbish, Grass & Bush	Extensive Area Of Bush And Grass Burned
1	F1512/0213		MORNINGSTAR	Other Rubbish, Grass & Bush	Large Area Of Vegetation
1	F1512/0702		MORNINGSTAR	Other Rubbish, Grass & Bush	Vegetation
1	F1512/0758	08-Dec-15	MORNINGSTAR	Other Rubbish, Grass & Bush	Vegetation
1	F1504/1318	18-Apr-15	PELLA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1511/1911	10-Nov-15	PELLA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1502/0206	02-Feb-15	SUNNINGDALE	Other Rubbish, Grass & Bush	Vegetatiion
1	F1502/1594	16-Feb-15	TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1510/1944	27-Oct-15	TABLE VIEW	Other Rubbish, Grass & Bush	Large Area Vegetation
1	F1501/1907	19-Jan-15		Other Rubbish, Grass & Bush	Bush And Grass
1	F1502/0245	02-Feb-15	ATLANTIS	Transport Cars & Motorcycles	Engine Compartment
1	F1502/2824	28-Feb-15	ATLANTIS	Transport Cars & Motorcycles	Engine Compartment And Drivers Cab
1	F1506/0003		ATLANTIS	Transport Cars & Motorcycles	Interior Of Vehicle: Upholstery And Combustible Components.
1	F1506/1082		ATLANTIS	Transport Cars & Motorcycles	Entire Motor Vehicle
1	F1507/1423		ATLANTIS	Transport Heavy Goods Vehicles	Truck And Trailor
1	F1509/0669		ATLANTIS	Transport Cars & Motorcycles	Entire Motor Car
1	F1512/2258		ATLANTIS INDUSTRIA	Transport Others	Caravan, Tree Logs
1	F1504/0855		MELKBOSSTRAND	Transport Cars & Motorcycles	
1	F1506/0233		MELKBOSSTRAND	Transport Cars & Motorcycles	Motorvehicle
1	F1506/1656		MELKBOSSTRAND	Transport Cars & Motorcycles	Motorvehicle
1	F1507/1100		MELKBOSSTRAND	Transport Cars & Motorcycles	Electrical Wiring, Components And Insulation
1	F1508/0759		MELKBOSSTRAND	Transport Cars & Motorcycles	Electrical Wiring
1	F1509/1232		MELKBOSSTRAND	Transport Others	
1	F1505/1004	•	PARKLANDS	Transport Cars & Motorcycles	One Motor Vehicle.
1	F1506/0703		PARKLANDS	Transport Cars & Motorcycles	Motor Vehicle.
1	F1506/1431		PARKLANDS	Transport Cars & Motorcycles	Engine Compartment.
1	F1504/0821		TABLE VIEW	Transport Cars & Motorcycles	Entire Motor Vehicle
1	F1509/0403		TABLE VIEW	Transport Cars & Motorcycles	Car Burned.
1	F1501/0693		WESFLEUR	Transport Cars & Motorcycles	Motor Vehicle
1	F1503/2314		WESFLUER	Transport Cars & Motorcycles	Engine Compartment
1	F1501/0346		ATLANTIS	Other Rubbish, Grass & Bush	Grass
1	F1501/0845		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1503/1549	1	ATLANTIS	Other Rubbish, Grass & Bush	
1	F1509/1160	·	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1511/3687		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1512/3107		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	B. d. A. J. Const.
1	F1511/1146		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1501/1275		BEACONHILL	Other Rubbish, Grass & Bush	Vegetation
1	F1502/0248	03-Feb-15	BIG BAY	Other Rubbish, Grass & Bush	Refuge Bin



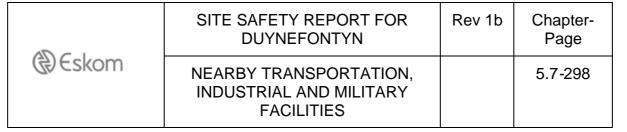
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1512/2027		PHILADELPHIA	Other Rubbish, Grass & Bush	
1	F1503/0190	02-Mar-15	ATLANTIS	,	
1	F1503/0318		ATLANTIS		
1	F1511/1126	03-Nov-15	ATLANTIS		
1	F1511/1580A		ATLANTIS		
1	F1511/2051		ATLANTIS		
1	F1511/3656	27-Nov-15	ATLANTIS		
1	F1511/3700	27-Nov-15	ATLANTIS		
1	F1512/1561	15-Dec-15	ATLANTIS		
1	F1512/3199	31-Dec-15	ATLANTIS		
1	F1512/3238	31-Dec-15	ATLANTIS		
1	F1601/0316	03-Jan-16	ATLANTIS		
1	F1503/1484	17-Mar-15	MAMRE		
1	F1512/3028	29-Dec-15	MAMRE		
1	F1512/1218	12-Dec-15	MELKBOSSTRAND		
1	F1502/2293	22-Feb-15	PARKLANDS		
1	F1512/0215	03-Dec-15	SUNNINGDALE		
1	F1507/1177	22-Jul-15	ATLANTIS	Commercial Restaurants & Cafes	
1	F1512/0498	05-Dec-15	Atlantic Beach	Residential Formal	
1	F1511/3256	23-Nov-15	ATLANTIS	Residential Formal	
2016:	462				
1	F1603/0747	10-Mar-16	ATLANTIS	Commercial Restaurants & Cafes	
1	F1603/0879		PAARDEN EILAND	Industry Textile	Plastic Gutter Components, Bitumen Roof Sealing Compound, etc.
1	F1601/1985		ATLANTIS	Residential Formal	4x Wood And Iron Structures and 2x Brick Dwellings
1	F1602/0016		ATLANTIS	Residential Formal	Vibrecate Structure Under Corrigate Roof
1	F1602/0217		ATLANTIS	Residential Informal	Bed, Bedding, Household Items, Etc.
1	F1604/0618		MAITLAND	Industry Printing	Manufacturing Equipment (Mainly P.V.C.)
1	F1607/1401	28-Jul-16	ATLANTIC BEACH ESTATE	Residential Formal	2 X Motor Vehicles, Entire Garage And Contents
1	F1607/1212		ATLANTIS	Residential Informal	Wood And Iron Structures Alight
1	F1608/1208		BEACONHILL	Residential Formal	Bed, Furniture And Personal Effects, Etc
1	F1601/1179	11-Jan-16	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1601/1736		ATLANTIS	Other Rubbish, Grass & Bush	Bush
1	F1601/1864		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1601/1948		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1601/2723		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1601/2997		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1601/3080		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1602/0285		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1602/0741		ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Treestumps
1	F1602/1765		ATLANTIS	N/A	Vegetation And Tree Stumps
1	F1602/1776		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation And Tree Stumps
1	F1602/2393 F1603/0678		ATLANTIS ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1603/0678 F1603/1292		ATLANTIS	Other Rubbish, Grass & Bush Other Rubbish, Grass & Bush	Bush And Grass Bush And Grass
1	F1603/1292 F1603/1393		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
I	L 1002/1282	i / -iviar-16	ATLANTIO	Uniter Rubbish, Grass & Bush	Dusii Aiiu Gidss



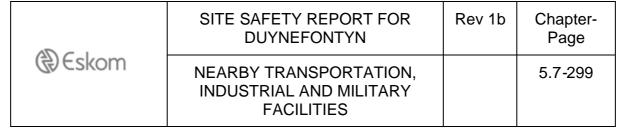
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1601/0788	08-Jan-16	ATLANTIS	Other Rubbish, Grass & Bush	Bush Andgrass
1	F1601/0803		ATLANTIS	Other Rubbish, Grass & Bush	Bush, Grass And Tree Stumps
1	F1601/0837	08-Jan-16	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation.
1	F1601/0878	08-Jan-16	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation.
1	F1601/0880	08-Jan-16	ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1601/0535	05-Jan-16	ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1601/1594	15-Jan-16	MAMRE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1602/0616	07-Feb-16	MAMRE	Other Rubbish, Grass & Bush	Bush And Grass
1	F1602/2523	29-Feb-16	MAMRE	Other Rubbish, Grass & Bush	Rubbish And Treestumps
1	F1601/0707	07-Jan-16	MORNINGSTAR	Other Rubbish, Grass & Bush	Vegetation
1	F1601/0825	08-Jan-16	MORNINGSTAR	Other Rubbish, Grass & Bush	Vegetation And Tree Stumps
1	F1601/1306	12-Jan-16	PARKLANDS	Other Rubbish, Grass & Bush	Vegetation
1	F1601/1495	14-Jan-16	PARKLANDS	Other Rubbish, Grass & Bush	Vegetation
1	F1601/1730	16-Jan-16	PARKLANDS	Other Rubbish, Grass & Bush	Vegetation
1	F1601/2360	22-Jan-16	PARKLANDS	Other Rubbish, Grass & Bush	Vegetation
1	F1603/0868	11-Mar-16	PARKLANDS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1602/0796	09-Feb-16		Other Rubbish, Grass & Bush	Vegetation
1	F1603/0633	08-Mar-16		Other Rubbish, Grass & Bush	Vegetation
1	F1601/2080		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1601/2453		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1602/0111	02-Feb-16	TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1603/0808		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation And Reeds
1	F1603/0834		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1604/0232		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1604/0384		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1604/1098		TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1604/1119	'	TABLE VIEW	Other Rubbish, Grass & Bush	Vegetation
1	F1609/0875		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1608/1233		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	Bush And Grass
1	F1609/1086	20-Sep-16		Other Rubbish, Grass & Bush	Grass
1	F1603/0840		POTSDAM	Industry Mines (surface)	Rubber Mats On Crushers And Conveyer Belt
1	F1609/1569		MELKBOSSTRAND	Residential Formal	Bed, Bedding, Electrical Appliances, Furniture, Roof, And Personal Affects.
1	F1601/1309		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1601/1597		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1602/0493		ATLANTIS	Other Rubbish, Grass & Bush	Vegetation
1	F1603/0607	08-Mar-16	ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1601/0821	09 lon 16	ATLANTIS	Institutional Hospitals & Nursing Homes	Bush And Grass
1	F1601/0821 F1601/0519		ATLANTIS INDUSTRIA	Other Rubbish, Grass & Bush	
1	F1601/0519 F1601/3118	31-Jan-16		Other Rubbish, Grass & Bush	Vegetation Bush And Grass
1	F1601/3118	16-Feb-16		Other Plantations & Forests	Bush And Grass
1	F1602/1402		MELKBOSSTRAND	Other Rubbish, Grass & Bush	Extensive Area Of Bush And Grass Burned
1	F1603/0535		MELKBOSSTRAND	Other Rubbish, Grass & Bush	Vegetation.
1	F1603/0564	07-Mar-16		Other Rubbish, Grass & Bush	Bush And Grass
1	F1603/1395		MELKBOSSTRAND	Other Miscellaneous Fires	Electrical Wires, Small Area Of Grass
1	F1602/0996		BLOUBERGSTRAND	Other Miscellaneous Fires	Wooden Deck & Staircase
	1 1002/0330	11-160-10	DECODENCOTIVAIND	Other puriscending out 1 1165	WOODEN DOOK & Clanicase



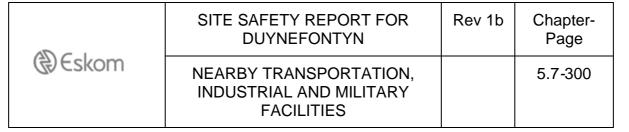
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	F1604/1182	20-Apr-16	MELKBOSSTRAND	Commercial Restaurants & Cafes	Pizza Oven Flue Vent Overheating.
1	F1605/0646	11-May-16	MELKBOSSTRAND	Other Miscellaneous Fires	Electricalbox Wiring
1	F1604/0282		PARKLANDS	Other Miscellaneous Fires	Electrical Transformer
1	F1606/0057	02-Jun-16	TABLE VIEW	Other Miscellaneous Fires	Lamp Standard
1	F1609/1547	29-Sep-16	ATLANTIS INDUSTRIA	Industry Metal	Portable Mounted Electrical Motor
1	F1609/0248	04-Sep-16	PARKLANDS	Other Miscellaneous Fires	Insulation Of Electrical Wiring
1	F1607/0041	01-Jul-16	TABLE VIEW	Other Miscellaneous Fires	Wheelie Bin And Rubbish
1	F1609/1261	23-Sep-16	ATLANTIS	Transport Cars & Motorcycles	Interior Of Motor Vehicle
1	F1602/2221	27-Feb-16	ATLANTIS	Transport Cars & Motorcycles	Motor Car
1	F1602/0105	01-Feb-16	TABLE VIEW	Transport Cars & Motorcycles	Entire Vehicle
1	F1607/0952	18-Jul-16	ATLANTIS	Transport Heavy Goods Vehicles	Tyre At Rear Of Vehicle
1	F1609/0003	01-Sep-16	ATLANTIS	Transport Cars & Motorcycles	Motorvehicle
1	F1609/0409	08-Sep-16	ATLANTIS	Transport Cars & Motorcycles	Entire Motor Vehicle
1	F1609/1368		ATLANTIS	Transport Cars & Motorcycles	Light Delivery Vehicle
1	F1609/0143	•	ATLANTIS INDUSTRIA	Transport Cars & Motorcycles	Electrical Insulation
1	F1609/1515		ATLANTIS INDUSTRIA	Transport Cars & Motorcycles	Electical Wiring And Components In Engin Compartment
1	F1607/1260		TABLE VIEW	Transport Cars & Motorcycles	Insulation Of Electricial Wiring
1	F1601/1097		ATLANTIS	Other Rubbish, Grass & Bush	
1	F1601/1797		ATLANTIS	Other Rubbish, Grass & Bush	Bush And Grass
1	F1601/0838		ATLANTIS	Other Miscellaneous Fires	
1	F1602/1377		MELKBOSSTRAND	Other Rubbish, Grass & Bush	
1	F1602/1955	23-Feb-16		Other Rubbish, Grass & Bush	Vegetation And Tree Stumps
1	30002805	10/3/2016 1:16:34 PM	PELLA		
1		10/3/2016 1:16:34 PM	PELLA		
1			PELLA		
1		10/4/2016 3:44:19 PM	SUNNINGDALE		
1	30002941	10/5/2016 7:20:10 AM	WESFLEUR		
1	30002941	10/5/2016 7:20:10 AM	WESFLEUR		
1	30002941	10/5/2016 7:20:10 AM	WESFLEUR		
1	30002941	10/5/2016 7:20:10 AM	WESFLEUR		
1	30002980	10/5/2016 3:51:48 PM	WITSAND		
1	30003198	10/9/2016 12:29:14 AM	WITSAND		
1	30003282	10/10/2016 4:53:20 AM	SAXONSEA		
1	30003327		ATLANTIS INDUSTRIAL		
1			ATLANTIS INDUSTRIAL		
1			ATLANTIS INDUSTRIAL		
1		10/12/2016 3:33:33 PM 10/11/2016 9:47:04 PM	ATLANTIS INDUSTRIAL		
1					
1		10/12/2016 1:07:27 PM 10/12/2016 1:07:27 PM			
1		10/13/2016 1:07:27 PM 10/13/2016 1:37:07 PM			
1			SAXONSEA		
1			WITSAND		
1		10/17/2016 2:48:57 PM	BEACON HILL		
	30003112	10/17/2016 2.48.37 PW 10/19/2016 11:03:14	BLACONTILL		
1	30003861		WESFLEUR		
<u> </u>	0000001			1	



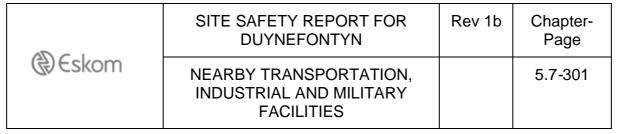
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1		10/19/2016 3:37:21 PM	BEACON HILL	11 A Occupancy	What Was Bulling
- '	30003670	10/19/2016 3:37:21 FM	BEACONTILL		
1	30003872	PM	BEACON HILL		
1			SAXONSEA		
1			CAPE FARMS - DISTRICT B		+
1					
1	30004042		ATLANTIS		
1	30004126	10/23/2016 12:36:24 AM	WITSAND		
ı	30004120	10/23/2016 12:36:24	WITSAND		
1	30004126	AM	WITSAND		
1	30004120		WESFLEUR		
1		10/23/2016 6:46:42 PM			
1			CAPE FARMS - DISTRICT B		
1			CAPE FARMS - DISTRICT B		
-	30004265	10/25/2016 11:25:52	CAPE FARING - DISTRICT B		+
1	30004333	AM	CAPE FARMS - DISTRICT C		
1	30004333	10/25/2016 3:43:03 PM			
1	30004341		WESFLEUR		
1			AVONDALE		
1	30004348		ATLANTIS INDUSTRIAL		
ı	30004300	10/26/2016 7.24.46 AM 10/26/2016 12:17:47	ATLANTIS INDUSTRIAL		
1	30004399	PM	SAXONSEA		
<u>'</u>	30004399	10/26/2016 12:39:17	SAXONSLA		
1	30004413	PM	BEACON HILL		
1	30004413		AVONDALE		
1			AVONDALE		
1	30004424		SAXONSEA		
1	30004436		SAXONSEA		
1	30004436		SAXONSEA		
1	30004430	10/26/2016 8:14:51 PM	WESFLEUR		
ı	30004474	10/27/2016 12:38:29	WESFLEUR		
1	30004514	PM	AVONDALE		
'	30004314	10/27/2016 12:58:58	AVOINDALL		
1	30004517	PM	ATLANTIS INDUSTRIAL		
<u> </u>	23301017	10/27/2016 11:34:32			
1	30004563		MELKBOSCH STRAND		
	22222	10/28/2016 10:47:18			
1	30004578		WESFLEUR		
		10/28/2016 11:14:37			
1	30004579	AM	AVONDALE		
		10/28/2016 11:14:37			
1	30004579	AM	AVONDALE		
1	30004582	10/28/2016 9:03:58 AM	WESFLEUR		
1	30004582	10/28/2016 9:03:58 AM	WESFLEUR		
1	30004629	10/28/2016 5:35:12 PM	AVONDALE		
1	30004629	10/28/2016 5:35:12 PM	AVONDALE		
1	30004631	10/28/2016 7:41:47 PM	AVONDALE		
1	30004632	10/28/2016 5:23:17 PM	GRASSY PARK		



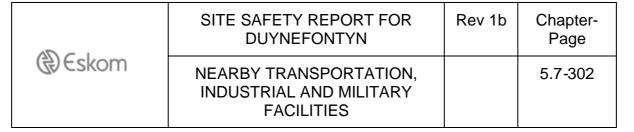
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1			ATLANTIS INDUSTRIAL	, , , , , , , , , , , , , , , , , , ,	J
1		10/29/2016 7:08:43 PM			
1					
1		10/30/2016 1:25:52 PM	WITSAND		
1		10/30/2016 5:12:07 PM			
1		10/30/2016 5:12:07 PM	AVONDALE		
1		10/31/2016 2:34:56 PM	AVONDALE		
1		11/1/2016 1:25:51 PM	ATLANTIS INDUSTRIAL		
1		11/1/2016 1:25:51 PM	ATLANTIS INDUSTRIAL		
1		11/1/2016 9:11:31 PM	ATLANTIS INDUSTRIAL		
1		11/2/2016 4:52:11 PM	ATLANTIS INDUSTRIAL		
1		11/3/2016 12:04:23 PM	CAPE FARMS - DISTRICT B		
1		11/3/2016 1:53:11 PM	AVONDALE		
1		11/3/2016 1:53:11 PM	AVONDALE		
1		11/3/2016 2:45:50 PM	PARKLANDS		
1		11/3/2016 2:45:50 PM	PARKLANDS		
1		11/5/2016 11:04:24 AM	AVONDALE		
1		11/5/2016 10:39:16 PM	WESFLEUR		
1		11/6/2016 11:22:12 AM	ATLANTIS INDUSTRIAL		
1		11/6/2016 11:37:36 AM	Atlantis		
1		11/6/2016 1:49:08 PM	ATLANTIS INDUSTRIAL		
1		11/6/2016 1:49:08 PM	ATLANTIS INDUSTRIAL		
1		11/6/2016 6:58:53 PM	SAXONSEA		
1		11/6/2016 7:50:04 PM	Atlantis		
1		11/6/2016 7:50:04 PM	Atlantis		
1		11/7/2016 2:34:17 PM	WESFLEUR		
1		11/7/2016 2:34:17 PM	WESFLEUR		
1		11/7/2016 4:34:53 PM	ATLANTIS INDUSTRIAL		
1		11/7/2016 4:34:53 PM	ATLANTIS INDUSTRIAL		
1		11/7/2016 7:54:18 PM	CAPE FARMS - DISTRICT B		
1	30005795	11/8/2016 6:42:18 AM	WESFLEUR		
1	30005796	11/8/2016 7:17:45 AM	MALMESBURY FARMS		
1		11/8/2016 1:36:30 PM	WESFLEUR		
1		11/8/2016 3:12:26 PM	BEACON HILL		
1		11/8/2016 4:03:24 PM	BEACON HILL		
1		11/8/2016 4:44:31 PM	ATLANTIS INDUSTRIA		
1	30005873	11/8/2016 6:35:28 PM	AVONDALE		
1		11/9/2016 11:31:02 AM	WESFLEUR		
1	30005928	11/9/2016 12:07:14 PM	WESFLEUR		
1			WESFLEUR		
1	30005928	11/9/2016 12:07:14 PM	WESFLEUR		
1	30005939	11/9/2016 2:21:04 PM	ATLANTIS INDUSTRIAL		
1	30005939	11/9/2016 2:21:04 PM	ATLANTIS INDUSTRIAL		
1	30005940	11/9/2016 2:23:40 PM	AVONDALE		
1	30005940	11/9/2016 2:23:40 PM	AVONDALE		
1	30005967	11/9/2016 6:19:54 PM	WITSAND		



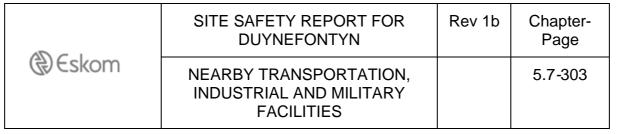
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	30005967	11/9/2016 6:19:54 PM	WITSAND	1 FA Occupancy	What was burning
1			SAXONSEA		
1		11/9/2016 6:03:30 PM			
1	30005977	11/9/2016 6:03:30 PM	SAXONSEA		
,	20000000	11/10/2016 11:13:02	CARE FARMS DISTRICT R		
1	30006006	AM	CAPE FARMS - DISTRICT B		
,	00000044	11/10/2016 12:56:49	ATLANTIC INDUCTORAL		
1	30006011	PM	ATLANTIS INDUSTRIAL		
1	30006011	11/10/2016 12:56:49 PM	ATLANTIS INDUSTRIAL		
1		l .	ATLANTIS INDUSTRIAL		
1			ATLANTIS INDUSTRIAL ATLANTIS INDUSTRIAL		
1					
1	30006024	l .			
1			CAPE FARMS - DISTRICT B		
1			CAPE FARMS - DISTRICT B		
1			CAPE FARMS - DISTRICT B		
1			MALMESBURY FARMS		
1			MALMESBURY FARMS		
1		11/10/2016 4:30:38 PM	WITSAND		
1			WITSAND		
1		l .	WITSAND		
1	30006078	l .	ATLANTIS INDUSTRIAL		
		11/11/2016 12:48:14			
1		AM	Atlantis		
1	30006124	11/11/2016 8:03:35 AM	ATLANTIS INDUSTRIAL		
1	30006124	11/11/2016 8:03:35 AM	ATLANTIS INDUSTRIAL		
1	30006124	11/11/2016 8:03:35 AM	ATLANTIS INDUSTRIAL		
		11/11/2016 12:42:13			
1	30006146	PM	ATLANTIS INDUSTRIAL		
		11/11/2016 12:54:05			
1	30006148	PM	ATLANTIS INDUSTRIAL		
		11/11/2016 12:54:05			
1	30006148		ATLANTIS INDUSTRIAL		
1			ATLANTIS INDUSTRIAL		
1			ATLANTIS INDUSTRIAL		
1	30006184	11/11/2016 4:58:16 PM	ATLANTIS		
1	30006184	11/11/2016 4:58:16 PM	ATLANTIS		
1	30006202	11/11/2016 6:31:50 PM	CAPE FARMS - DISTRICT B		
1	30006202	11/11/2016 6:31:50 PM	CAPE FARMS - DISTRICT B		
1	30006304	11/12/2016 4:10:12 PM	ATLANTIS INDUSTRIAL		
1			ATLANTIS INDUSTRIAL		
1		11/13/2016 1:12:58 PM			
1		11/13/2016 1:12:58 PM			
1		11/13/2016 1:12:58 PM			
1		11/13/2016 1:12:58 PM			
1		11/13/2016 1:12:58 PM			
<u> </u>	33300727	11/14/2016 10:36:49			
1	30006538		BEACON HILL		
<u> </u>	0000000	7 1111	DE, TOOR FILE	l .	



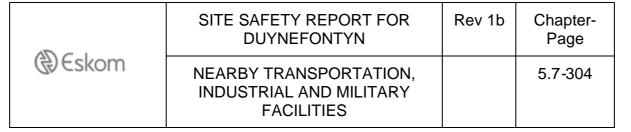
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
	molaciit iio.	11/14/2016 11:35:29	Cubuib	11 A Occupancy	Trial trae Darining
1	30006541	AM	ATLANTIS INDUSTRIAL		
	00000011	11/14/2016 11:35:29	, (E ((()))		
1	30006541	AM	ATLANTIS INDUSTRIAL		
		11/14/2016 11:35:29			
1	30006541	AM	ATLANTIS INDUSTRIAL		
		11/14/2016 11:13:48			
1	30006557	AM	SAXONSEA		
		11/14/2016 11:26:32			
1	30006558	AM	AVONDALE		
		11/14/2016 12:48:33			
1	30006569	PM	WESFLEUR		
	00000500	11/14/2016 12:48:33	WESELEUD		
1	30006569	PM	WESFLEUR		
1	30006659	11/15/2016 7:16:09 AM	ATLANTIS INDUSTRIAL		
	20000000	11/14/2016 11:28:17	HOUT DAY		
	30006663	11/15/2016 10:36:03	HOUT BAY		
1	30006671	AM	WESFLEUR		
'	30000071	11/15/2016 10:36:03	WESFLEUK		
1	30006671	AM	WESFLEUR		
<u> </u>	00000071	11/15/2016 10:36:03	VVEOI LEGIC		
1	30006671	AM	WESFLEUR		
1	30006674		WITSAND		
-	000000	11/15/2016 11:45:40			
1	30006693	AM	ATLANTIS INDUSTRIAL		
1	30006725	11/15/2016 2:29:39 PM	WESFLEUR		
1	30006725	11/15/2016 2:29:39 PM	WESFLEUR		
1	30006757	11/15/2016 6:13:36 PM	ATLANTIS INDUSTRIAL		
		11/16/2016 11:20:27			
1	30006814		BEACON HILL		
		11/16/2016 11:54:56			
1	30006816		CAPE FARMS - DISTRICT C		
	00000015	11/16/2016 11:54:56	0.000 5.000 5.000 5.000		
1	30006816	AM	CAPE FARMS - DISTRICT C		
	20000040	11/16/2016 11:54:56	CARE FARMS DISTRICT O		
1	30006816		CAPE FARMS - DISTRICT C		
1			CAPE FARMS - DISTRICT B		
1			CAPE FARMS - DISTRICT B		
1			CAPE FARMS - DISTRICT B		
1		11/16/2016 6:43:04 PM			
1		11/16/2016 6:43:04 PM			
1			CAPE FARMS - DISTRICT B		
1		11/17/2016 3:43:14 PM			
1		11/17/2016 4:15:59 PM			
1			ATLANTIS INDUSTRIAL		
1		11/18/2016 3:16:31 PM			
1	30007057	11/18/2016 3:16:31 PM	WESFLEUK		



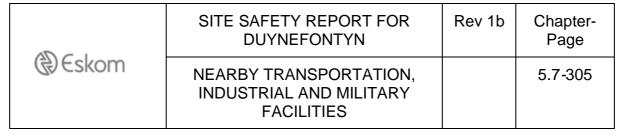
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1			WESFLEUR	, and the same of	3
1		11/18/2016 4:33:23 PM	I .		
1		11/18/2016 4:33:23 PM			
1			CAPE FARMS - DISTRICT B		
1		11/18/2016 4:52:05 PM			
1			ATLANTIS INDUSTRIAL		
1			ATLANTIS INDUSTRIAL		
1			ATLANTIS INDUSTRIAL		
1			ATLANTIS INDUSTRIAL		
1			ATLANTIS INDUSTRIAL		
1			ATLANTIS INDUSTRIAL		
1			CAPE FARMS - DISTRICT B		
1			CAPE FARMS - DISTRICT B		
1			CAPE FARMS - DISTRICT B		
1			ATLANTIS INDUSTRIAL		
1		11/19/2016 9:54:04 PM	MAMRE		
	0000:2:0	11/20/2016 10:35:35			
1	30007300		CAPE FARMS - DISTRICT B		
1	30007368	11/20/2016 5:33:50 PM	WESFLEUR		
		11/21/2016 10:14:40			
1	30007379		WITSAND		
1	30007387	11/20/2016 8:26:43 PM	WITSAND		
1	30007387	11/20/2016 8:26:43 PM	WITSAND		
		11/20/2016 10:03:03			
1	30007401		BEACON HILL		
1			ATLANTIS INDUSTRIAL		
1		11/21/2016 3:38:43 PM			
1		11/22/2016 9:30:53 PM			
1			ATLANTIS INDUSTRIAL		
1			ATLANTIS INDUSTRIAL		
1			CAPE FARMS - DISTRICT B		
1		11/25/2016 4:17:23 PM			
1		11/25/2016 4:17:23 PM			
1		11/25/2016 4:00:29 PM			
1			CAPE FARMS - DISTRICT B		
1			ATLANTIS INDUSTRIAL		
1		11/26/2016 3:04:51 PM			
1		11/26/2016 3:04:51 PM			
1			TABLE VIEW		
1	30007908	11/26/2016 3:54:26 PM	TABLE VIEW		
1	30008023	11/27/2016 11:49:53	ATLANTIS INDUSTRIAL		
'	30006023	11/27/2016 11:49:53	ATLANTIS INDUSTRIAL		
1	30008023		ATLANTIS INDUSTRIAL		
1			WITSAND		
1			ATLANTIS INDUSTRIAL		
	30000230	11/20/2010 7.70.71 [[V]	ATEMINIO INDUSTRIAL	l	



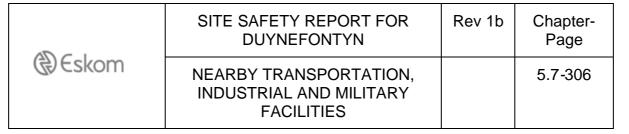
aident ne D	Data of Incident	Cubush	EDA Occupancy	What Was Durning
	Date of Incident 11/30/2016 11:26:31	Suburb	FPA Occupancy	What Was Burning
30008330 AN		AVONDALE		
	4 11/30/2016 7:57:45 AM	BEACON HILL		
	11/30/2016 11:54:28	BEACONTILL	+	
30008345 AN		ATLANTIS INDUSTRIAL		
	7 11/30/2016 1:40:02 PM			
		AVONDALE		
		MORNINGSTAR		
	2 12/1/2016 5:05:55 PM	MORNINGSTAR		
	2 12/1/2016 5:05:55 PM	MORNINGSTAR		
	2 12/1/2016 5:05:55 PM	MORNINGSTAR		
	2 12/1/2016 5:05:55 PM	MORNINGSTAR		
	0 12/1/2016 6:13:18 PM	WITSAND	-	
	0 12/1/2016 6:13:18 PM	WITSAND		
	5 12/4/2016 1:19:24 PM	ATLANTIS INDUSTRIAL		
		SAXONSEA		
		ATLANTIS INDUSTRIAL		
		BIG BAY		
30008936 12	6 12/5/2016 1:33:56 PM	WESFLEUR		
30008936 12	6 12/5/2016 1:33:56 PM	WESFLEUR		
30008936 12	6 12/5/2016 1:33:56 PM	WESFLEUR		
30009268 12	8 12/8/2016 4:18:30 PM	ATLANTIS INDUSTRIAL		
30009268 12	8 12/8/2016 4:18:30 PM	ATLANTIS INDUSTRIAL		
30009268 12	8 12/8/2016 4:18:30 PM	ATLANTIS INDUSTRIAL		
30009268 12	8 12/8/2016 4:18:30 PM	ATLANTIS INDUSTRIAL		
		KUILS RIVER COMMON		
		KUILS RIVER COMMON		
		MAMRE		
	5 12/9/2016 2:32:08 PM	PARKLANDS		
	6 12/10/2016 2:06:39 PM	CAPE FARMS - DISTRICT C		
		ATLANTIS INDUSTRIAL		
		ATLANTIS INDUSTRIAL		
		AVONDALE		
		SUNSET BEACH		
	12/11/2016 11:37:31			
30009526 AN		SUNSET BEACH		
30009410 12 30009519 AM 12 30009526 AM 12	12/11/2016 11:37:31 6 AM 12/11/2016 11:37:31			



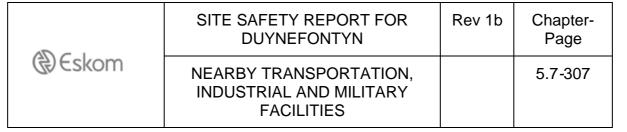
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
	molaone no.	12/11/2016 12:18:06	Gubaib	TTA Cocupancy	Trial trae Burning
1	30009533		PARKLANDS		
		12/11/2016 12:18:06			
1	30009533	PM	PARKLANDS		
		12/11/2016 12:18:06			
1	30009533		PARKLANDS		
1		12/13/2016 3:40:12 PM	ATLANTIS INDUSTRIAL		
1	30009786		ATLANTIS INDUSTRIAL		
		12/14/2016 11:31:24			
1	30009853		WESFLEUR		
1			ATLANTIS INDUSTRIAL		
1	30009962		CAPE FARMS - DISTRICT B		
1	30009989	12/15/2016 2:32:08 PM	SAXONSEA		
1			AVONDALE		
1		12/15/2016 2:46:53 PM	WESTLAKE		
1	30010079	12/16/2016 9:44:53 AM	WITSAND		
1	30010348	12/18/2016 12:12:34	PARKLANDS		
1	30010346	12/18/2016 12:12:34	PARKLANDS		
1	30010348		PARKLANDS		
1	_		CAPE FARMS - DISTRICT C		
1		12/18/2016 9:06:53 PM	SAXONSEA		
1		12/19/2016 9:29:44 AM	CAPE FARMS - DISTRICT B		
'	00010120	12/19/2016 11:57:17	CALLIANNIC BICHNICI B		
1	30010429		CAPE FARMS - DISTRICT B		
		12/19/2016 11:57:17			
1	30010429	AM	CAPE FARMS - DISTRICT B		
1	30010554	12/20/2016 2:25:41 PM	ATLANTIS INDUSTRIAL		
1	30010554		ATLANTIS INDUSTRIAL		
1	30010556	12/20/2016 3:05:33 PM	BEACON HILL		
1	30010564	12/20/2016 4:10:14 PM	CAPE FARMS - DISTRICT B		
1	30010564	12/20/2016 4:10:14 PM	CAPE FARMS - DISTRICT B		
1	30010564	12/20/2016 4:10:14 PM	CAPE FARMS - DISTRICT B		
1	30010564	12/20/2016 4:10:14 PM	CAPE FARMS - DISTRICT B		
1	30010618	12/21/2016 8:49:48 AM	WESFLEUR		
1			CAPE FARMS - DISTRICT B		
1			CAPE FARMS - DISTRICT B		
1			CAPE FARMS - DISTRICT B		
1			CAPE FARMS - DISTRICT B		
1		12/22/2016 7:03:12 AM	CAPE FARMS - DISTRICT B		
1		12/22/2016 7:03:12 AM	CAPE FARMS - DISTRICT B		
1			SAXONSEA		
1		12/22/2016 2:23:45 PM	SAXONSEA		
1			MAMRE DISTRICT B		
1			CAPE FARMS - DISTRICT B		
1			CAPE FARMS - DISTRICT B		
	30010750	12/22/2010 3:44:15 PM	CAPE FARMS - DISTRICT B		



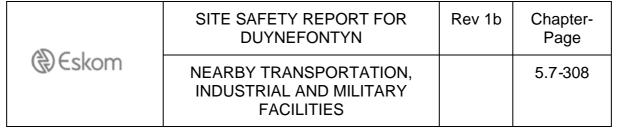
Incident no. Date of Incident Suburb FPA Occupancy What Was Burning	
1 30010780 PM SAXONSEA 1 30010818 AM WITSAND 1 30010990 AM CAPE FARMS - DISTRICT B	
1 30010780 PM SAXONSEA 1 12/23/2016 11:27:43 WITSAND 1 30010990 AM CAPE FARMS - DISTRICT B 1 12/25/2016 11:25:55 CAPE FARMS - DISTRICT B	
1 30010818 AM WITSAND 1 30010990 AM CAPE FARMS - DISTRICT B 1 20010990 AM CAPE FARMS - DISTRICT B	
1 30010818 AM WITSAND 1 30010990 AM CAPE FARMS - DISTRICT B 1 2/2/5/2016 11:25:55 CAPE FARMS - DISTRICT B	
1 30010990 AM CAPE FARMS - DISTRICT B	
1 30010990 AM CAPE FARMS - DISTRICT B	
1 30010990 AM CAPE FARMS - DISTRICT B 1 2/25/2016 11:25:55 1 30010990 AM CAPE FARMS - DISTRICT B	
1 30010990 AM CAPE FARMS - DISTRICT B	
1 30010990 AM CAPE FARMS - DISTRICT B	
1 30010990 AM CAPE FARMS - DISTRICT B	
1 30010990 AM CAPE FARMS - DISTRICT B 1 2/25/2016 11:25:55 1 30010990 AM CAPE FARMS - DISTRICT B 1 2/25/2016 11:25:55	
1 30010990 AM CAPE FARMS - DISTRICT B 1 12/25/2016 11:25:55 CAPE FARMS - DISTRICT B	
1 30010990 AM CAPE FARMS - DISTRICT B 1 2/25/2016 11:25:55 1 30010990 AM CAPE FARMS - DISTRICT B 1 2/25/2016 11:25:55 1 30010990 AM CAPE FARMS - DISTRICT B	
1 30010990 AM CAPE FARMS - DISTRICT B 1 12/25/2016 11:25:55 CAPE FARMS - DISTRICT B 1 12/25/2016 11:25:55	
1 30010990 AM CAPE FARMS - DISTRICT B 1 2/25/2016 11:25:55 1 12/25/2016 11:25:55	
1 30010990 AM CAPE FARMS - DISTRICT B 1 12/25/2016 11:25:55 CAPE FARMS - DISTRICT B	
1 30010990 AM CAPE FARMS - DISTRICT B 1 30010990 AM CAPE FARMS - DISTRICT B 1 30010990 AM CAPE FARMS - DISTRICT B 1 12/25/2016 11:25:55	
1 30010990 AM CAPE FARMS - DISTRICT B 1 30010990 AM CAPE FARMS - DISTRICT B 1 12/25/2016 11:25:55 CAPE FARMS - DISTRICT B	
1 30010990 AM CAPE FARMS - DISTRICT B 12/25/2016 11:25:55 12/25/2016 11:25:55	
1 30010990 AM CAPE FARMS - DISTRICT B 1 12/25/2016 11:25:55 CAPE FARMS - DISTRICT B	
12/25/2016 11:25:55	
1 30010990 AM CAPE FARMS - DISTRICT B	
1 30011053 12/25/2016 6:49:18 PM RIVERGATE	
1 30011053 12/25/2016 6:49:18 PM RIVERGATE	
1 30011058 12/25/2016 7:37:37 PM ATLANTIS INDUSTRIAL	
1 30011058 12/25/2016 7:37:37 PM ATLANTIS INDUSTRIAL	
12/26/2016 11:38:19	
1 30011112 AM CAPE FARMS - DISTRICT B	
12/26/2016 11:38:19	
1 30011112 AM CAPE FARMS - DISTRICT B	
12/26/2016 11:38:19	
1 30011112 AM CAPE FARMS - DISTRICT B	
12/26/2016 11:41:11	
1 30011122 AM CAPE FARMS - DISTRICT B	
12/26/2016 11:41:11	
1 30011122 AM CAPE FARMS - DISTRICT B	
12/26/2016 11:41:11	
1 30011122 AM CAPE FARMS - DISTRICT B	
12/26/2016 11:41:11	
1 30011122 AM CAPE FARMS - DISTRICT B	
12/26/2016 11:41:11	
1 30011122 AM CAPE FARMS - DISTRICT B	
12/26/2016 11:41:11	
1 30011122 AM CAPE FARMS - DISTRICT B	
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1 30011122 AM CAPE FARMS - DISTRICT B	
12/26/2016 11:41:11	
1 30011122 AM CAPE FARMS - DISTRICT B	



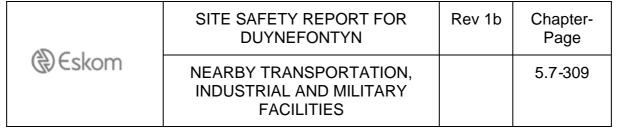
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
		12/26/2016 11:41:11			
1	30011122	AM	CAPE FARMS - DISTRICT B		
1	30011130	12/27/2016 2:32:50 AM	CAPE FARMS - DISTRICT B		
1	30011130	12/27/2016 2:32:50 AM	CAPE FARMS - DISTRICT B		
1	30011130	12/27/2016 2:32:50 AM	CAPE FARMS - DISTRICT B		
1	30011224	12/27/2016 4:53:07 PM	CAPE FARMS - DISTRICT B		
1	30011224	12/27/2016 4:53:07 PM	CAPE FARMS - DISTRICT B		
1	30011232	12/27/2016 6:09:47 PM	BIG BAY		
1	30011238	12/27/2016 8:25:59 PM	WESFLEUR		
1	30011238	12/27/2016 8:25:59 PM	WESFLEUR		
1	30011333	12/29/2016 9:58:36 AM	ATLANTIS INDUSTRIAL		
1	30011333	12/29/2016 9:58:36 AM	ATLANTIS INDUSTRIAL		
		12/29/2016 10:17:46			
1	30011334	AM	ATLANTIS INDUSTRIAL		
		12/29/2016 10:17:46			
1	30011334	AM	ATLANTIS INDUSTRIAL		
	20044224	12/29/2016 10:17:46	ATLANITIC INDUCTOLAL		
1	30011334	AM 12/29/2016 10:17:46	ATLANTIS INDUSTRIAL		
1	30011334	12/29/2016 10.17.46 AM	ATLANTIS INDUSTRIAL		
'	30011334	12/29/2016 12:34:57	ATEANTIS INDUSTRIAL		
1	30011342	PM	CAPE FARMS - DISTRICT C		
<u>'</u>	00011012	12/29/2016 12:34:57	ON ETANNE BIOTHER		
1	30011342	PM	CAPE FARMS - DISTRICT C		
1		12/29/2016 2:20:14 PM	SAXONSEA		
1	30011351		CAPE FARMS - DISTRICT B		
1	30011351		CAPE FARMS - DISTRICT B		
1	30011351	12/29/2016 2:45:14 PM	CAPE FARMS - DISTRICT B		
1	30011366	12/29/2016 3:16:08 PM	MAMRE		
1	30011379	12/29/2016 6:17:39 PM	PARKLANDS		
1	30011379	12/29/2016 6:17:39 PM	PARKLANDS		
1	30011393	12/29/2016 6:51:12 PM	ATLANTIS INDUSTRIAL		
1	30011393	12/29/2016 6:51:12 PM	ATLANTIS INDUSTRIAL		
1	30011395		CAPE FARMS - DISTRICT B		
1	30011400	12/29/2016 8:26:56 PM			
1		12/30/2016 5:49:02 AM			
1			CAPE FARMS - DISTRICT B		
1	30011534	12/31/2016 2:06:10 PM	CAPE FARMS - DISTRICT B		
1	30011534		CAPE FARMS - DISTRICT B		
		10/13/2016 11:08:11			
1		AM	BEACON HILL		
1		10/25/2016 9:25:34 AM			
1		10/25/2016 6:25:24 PM			
1		10/28/2016 5:48:43 PM			
1			ATLANTIS INDUSTRIAL		
1			ATLANTIS INDUSTRIAL		
1	30006968	11/17/2016 5:47:10 PM	RIVERGATE		



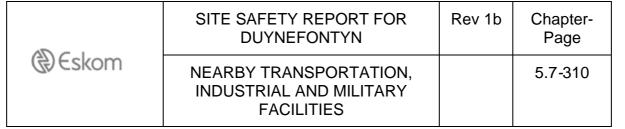
	Incident no.	Date of Incident	Suburb	EDA Occupancy	What Was Burning
4		11/18/2016 3:24:15 PM	BIG BAY	FPA Occupancy	What Was Burning
1		11/16/2016 3.24.15 PW 11/22/2016 9:07:50 AM	ATLANTIS INDUSTRIAL		
1		11/22/2016 9.07.50 AW	MELKBOSCH STRAND		
1					
1	30008501	12/1/2016 4:53:54 PM	ATLANTIS INDUSTRIAL		
1	30008647	12/2/2016 8:53:36 PM	CAPE FARMS - DISTRICT B		
1	30008648	12/2/2016 9:00:41 PM	ATLANTIS INDUSTRIAL		
1		12/26/2016 8:54:31 AM 12/31/2016 3:17:27 PM	CAPE FARMS - DISTRICT B		
	30011547	12/31/2016 3.17.27 PW	WITSAND		
2017:	387				
1	0030011684	2017/01/01 12:51:17 PM	CAPE FARMS - DISTRICT B		
1	0030011684		CAPE FARMS - DISTRICT B		
1	0030011684		CAPE FARMS - DISTRICT B		
1	0030011964	2017/01/03 08:48:06 PM			
1	0030011964	2017/01/03 08:48:06 PM			
1	0030011964	2017/01/03 08:48:06 PM			
1	0030011904	2017/01/03 08:48:00 PM 2017/01/04 09:19:34 PM			
1		2017/01/04 09:19:34 PM			
1	0030012056	2017/01/04 09:19:34 PM 2017/01/04 09:19:34 PM			
1	0030012056				
1	0030012056	2017/01/04 09:19:34 PM			
1	0030012058		CAPE FARMS - DISTRICT B		
1	0030012058		CAPE FARMS - DISTRICT B		
1	0030012058		CAPE FARMS - DISTRICT B		
1	0030012289	2017/01/07 01:58:12 PM			
1	0030012311	2017/01/07 05:04:02 PM			
1	0030012369	2017/01/08 08:52:31 AM			
1	0030012518		CAPE FARMS - DISTRICT B		
1	0030012518		CAPE FARMS - DISTRICT B		
1	0030012595		CAPE FARMS - DISTRICT B		
1	0030012595		CAPE FARMS - DISTRICT B		
1	0030012595		CAPE FARMS - DISTRICT B		
1	0030012595		CAPE FARMS - DISTRICT B		
1	0030012595	2017/01/10 12:26:26 PM	CAPE FARMS - DISTRICT B		
1	0030012595		CAPE FARMS - DISTRICT B		
1	0030012595	2017/01/10 12:26:26 PM	CAPE FARMS - DISTRICT B		
1	0030012595	2017/01/10 12:26:26 PM	CAPE FARMS - DISTRICT B		
1	0030012720	2017/01/11 03:21:43 PM	CAPE FARMS - DISTRICT B		
1	0030012804	2017/01/12 03:44:15 PM	WESFLEUR		
1	0030012804	2017/01/12 03:44:15 PM	WESFLEUR		
1	0030012870	2017/01/13 10:08:13 AM	TABLE VIEW		
1	0030012889	2017/01/13 01:32:32 PM	CAPE FARMS - DISTRICT B		
1	0030012889	2017/01/13 01:32:32 PM	CAPE FARMS - DISTRICT B		
1	0030012889	2017/01/13 01:32:32 PM	CAPE FARMS - DISTRICT B		
1	0030013384	2017/01/17 04:49:55 PM			
1	0030013384	2017/01/17 04:49:55 PM	ATLANTIS INDUSTRIAL		



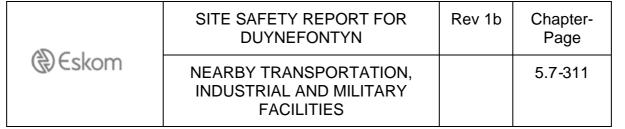
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	0030013387	2017/01/17 06:14:40 PM		, and the second	The state of the s
1	0030013397		CAPE FARMS - DISTRICT C		
1	0030013398	2017/01/17 11:01:58 PM			
1	0030013406	i	CAPE FARMS - DISTRICT B		
1	0030013730		CAPE FARMS - DISTRICT B		
1	0030013730		CAPE FARMS - DISTRICT B		
1	0030013730		CAPE FARMS - DISTRICT B		
1	0030013730	i	CAPE FARMS - DISTRICT B		
1	0030013742	2017/01/21 12:03:30 PM			
1	0030013742	2017/01/21 12:03:30 PM			
1	0030014095	2017/01/25 03:26:27 PM	CAPE FARMS - DISTRICT B		
1	0030014095	2017/01/25 03:26:27 PM	CAPE FARMS - DISTRICT B		
1	0030014095	2017/01/25 03:26:27 PM	CAPE FARMS - DISTRICT B		
1	0030014095	2017/01/25 03:26:27 PM	CAPE FARMS - DISTRICT B		
1	0030014134	2017/01/25 06:28:49 PM	MORGENSTER		
1	0030014661	2017/02/02 04:57:05 PM	CAPE FARMS - DISTRICT B		
1	0030014661	2017/02/02 04:57:05 PM	CAPE FARMS - DISTRICT B		
1	0030014661	2017/02/02 04:57:05 PM	CAPE FARMS - DISTRICT B		
1	0030014661	2017/02/02 04:57:05 PM	CAPE FARMS - DISTRICT B		
1	0030014661	2017/02/02 04:57:05 PM	CAPE FARMS - DISTRICT B		
1	0030014661	2017/02/02 04:57:05 PM	CAPE FARMS - DISTRICT B		
1	0030014661		CAPE FARMS - DISTRICT B		
1	0030014758		CAPE FARMS - DISTRICT B		
1	0030014792	i	CAPE FARMS - DISTRICT B		
1	0030014793	2017/02/03 12:49:11 PM			
1	0030014793	2017/02/03 12:49:11 PM	WESFLEUR		
1	0030014858	i	CAPE FARMS - DISTRICT B		
1	0030014858		CAPE FARMS - DISTRICT B		
1	0030014858		CAPE FARMS - DISTRICT B		
1	0030014858		CAPE FARMS - DISTRICT B		
1	0030015150		CAPE FARMS - DISTRICT B		
1	0030015150		CAPE FARMS - DISTRICT B		
1	0030015299	i	CAPE FARMS - DISTRICT B		
1	0030015299		CAPE FARMS - DISTRICT B		
1	0030015300		CAPE FARMS - DISTRICT B		
1	0030015300	i	CAPE FARMS - DISTRICT B		
1	0030015300		CAPE FARMS - DISTRICT B		
1	0030015300		CAPE FARMS - DISTRICT B		
1	0030015386		CAPE FARMS - DISTRICT B		
1	0030015386		CAPE FARMS - DISTRICT B		
1	0030015409	2017/02/11 07:16:45 AM			
1	0030015409	2017/02/11 07:16:45 AM			
1	0030015467	2017/02/11 01:15:34 AM			
1	0030015475	2017/02/11 06:34:52 AM			
1	0030015578	2017/02/12 11:20:25 AM	ATLANTIS INDUSTRIAL		



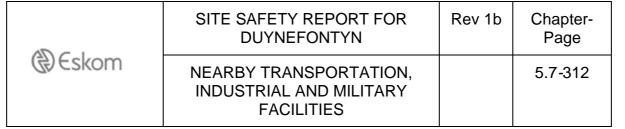
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	0030015578		ATLANTIS INDUSTRIAL	· · · · · · · · · · · · · · · · · · ·	The state of the s
1	0030015578		ATLANTIS INDUSTRIAL		
1	0030015578	i	ATLANTIS INDUSTRIAL		
1	0030015578	2017/02/12 11:20:25 AM			
1	0030015703	2017/02/13 12:50:59 PM			
1	0030015783	2017/02/14 12:47:52 PM			
1	0030015882	2017/02/15 05:10:51 PM	 		
1	0030015882	2017/02/15 05:10:51 PM	•		
1	0030015896	2017/02/16 10:11:13 AM			
1	0030016243		CAPE FARMS - DISTRICT C		
1	0030016243		CAPE FARMS - DISTRICT C		
1	0030016448		ATLANTIS INDUSTRIAL		
1	0030016448	2017/02/21 10:26:50 PM	•		
1	0030016505	2017/02/22 05:01:47 PM	•		
1	0030016559	2017/02/23 12:52:34 PM			
1	0030016559	2017/02/23 12:52:34 PM	•		
1	0030016559	2017/02/23 12:52:34 PM	 		
1	0030016559	2017/02/23 12:52:34 PM	•		
1	0030016559	2017/02/23 12:52:34 PM			
1	0030016664		ATLANTIS INDUSTRIAL		
1	0030016921	2017/02/27 11:24:22 AM			
1	0030016921	2017/02/27 11:24:22 AM			
1	0030016921	2017/02/27 11:24:22 AM			
1	0030016921	2017/02/27 11:24:22 AM	BEACON HILL		
1	0030016921	2017/02/27 11:24:22 AM	BEACON HILL		
1	0030016921	2017/02/27 11:24:22 AM	BEACON HILL		
1	0030016921	2017/02/27 11:24:22 AM	BEACON HILL		
1	0030016921	2017/02/27 11:24:22 AM	BEACON HILL		
1	0030016921	2017/02/27 11:24:22 AM	BEACON HILL		
1	0030016921	2017/02/27 11:24:22 AM	BEACON HILL		
1	0030016969	2017/02/27 12:16:51 PM	CAPE FARMS - DISTRICT C		
1	0030016969	2017/02/27 12:16:51 PM	CAPE FARMS - DISTRICT C		
1	0030017431	2017/03/04 02:09:27 AM	ATLANTIS INDUSTRIAL		
1	0030017766	2017/03/07 06:30:06 PM	TABLE VIEW		
1	0030018005	2017/03/10 02:39:16 PM	CAPE FARMS - DISTRICT B		
1	0030018418	2017/03/14 05:05:51 PM	ATLANTIS INDUSTRIAL		
1	0030018418	2017/03/14 05:05:51 PM	ATLANTIS INDUSTRIAL		
1	0030018488	2017/03/15 03:48:27 PM	ATLANTIS INDUSTRIAL		
1	0030018807	2017/03/19 11:54:27 AM	CAPE FARMS - DISTRICT B		
1	0030018807	2017/03/19 11:54:27 AM	CAPE FARMS - DISTRICT B		
1	0030018812	2017/03/19 01:47:25 PM	TABLE VIEW		
1	0030018812	2017/03/19 01:47:25 PM	TABLE VIEW		
1	0030018812	2017/03/19 01:47:25 PM	•		
1	0030018812	2017/03/19 01:47:25 PM	TABLE VIEW		
1	0030018812	2017/03/19 01:47:25 PM	TABLE VIEW		



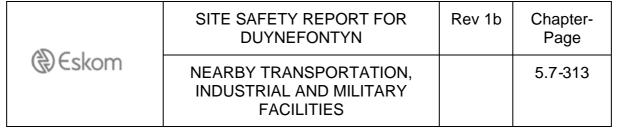
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	0030018845	2017/03/20 09:47:57 AM	MAMRE	Time Cocupanity	That that Daniely
1	0030018845	2017/03/20 09:47:57 AM			
1	0030018845	2017/03/20 09:47:57 AM			
1	0030018845	2017/03/20 09:47:57 AM			
1	0030018845	2017/03/20 09:47:57 AM	 		
1	0030018914	i	CAPE FARMS - DISTRICT B		
1	0030019292	2017/03/25 01:19:12 PM			
1	0030019292	2017/03/25 01:19:12 PM			
1	0030019524	2017/03/28 12:58:32 PM			
1	0030019614		ATLANTIS INDUSTRIAL		
1	0030019679	2017/03/30 03:17:11 PM			
1	0030019679	2017/03/30 03:17:11 PM	MAMRE		
1	0030019679	2017/03/30 03:17:11 PM	MAMRE		
1	0030019726	2017/03/31 07:18:30 AM	ATLANTIS INDUSTRIAL		
1	0030019838	2017/04/03 02:02:15 AM	ATLANTIS INDUSTRIAL		
1	0030019909	2017/04/02 04:52:01 PM	CAPE FARMS - DISTRICT B		
1	0030020093	2017/04/05 06:19:15 PM	CAPE FARMS - DISTRICT B		
1	0030020174	2017/04/07 07:45:43 AM	ATLANTIS INDUSTRIAL		
1	0030020203	i	CAPE FARMS - DISTRICT C		
1	0030020203	2017/04/07 03:22:57 PM	CAPE FARMS - DISTRICT C		
1	0030020203	2017/04/07 03:22:57 PM	CAPE FARMS - DISTRICT C		
1	0030020269	2017/04/08 11:49:06 AM	TABLE VIEW		
1	0030020290	i	CAPE FARMS - DISTRICT C		
1	0030020290		CAPE FARMS - DISTRICT C		
1	0030021235	2017/04/23 11:48:39 AM			
1	0030021235	2017/04/23 11:48:39 AM			
1	0030021235	i	ATLANTIS INDUSTRIAL		
1	0030021235	i	ATLANTIS INDUSTRIAL		
1	0030021309	2017/04/24 10:32:11 AM			
1	0030021337	2017/04/24 02:24:48 PM	•		
1	0030021409		CAPE FARMS - DISTRICT B		
1	0030021409		CAPE FARMS - DISTRICT B		
1	0030021697		ATLANTIS INDUSTRIAL		
1	0030021697	2017/04/29 05:10:41 PM			
1	0030021697		ATLANTIS INDUSTRIAL		
1	0030021697		ATLANTIS INDUSTRIAL		
1	0030022034	2017/05/05 12:53:24 PM			
1	0030022805	2017/05/17 02:14:11 PM			
1	0030022805	2017/05/17 02:14:11 PM			
1	0030023149		CAPE FARMS - DISTRICT B		
1	0030023149		CAPE FARMS - DISTRICT B		
1	0030023222	2017/05/23 02:09:42 PM			
1	0030024965	2017/06/19 03:25:23 AM			
1	0030024965	2017/06/19 03:25:23 AM			
<u> </u>	0030024965	2017/06/19 03:25:23 AM	I NRTE AIEM		



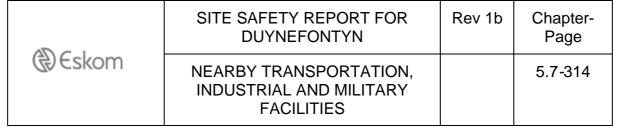
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	30025907				Thiat true Burning
1	30025907		ATLANTIS INDUSTRIAL		
1	30025923	2017/07/04 21:09			
1	30025923	2017/07/04 21:09			
1	30027741	2017/08/05 23:25			
1	0030031388		ATLANTIS INDUSTRIAL		
1	0030031388				
1	0030031406	2017/10/07	CAPE FARMS - DISTRICT B		
1	0030031446		SAXONSEA		
1	0030031508		CAPE FARMS - DISTRICT B		
1	0030031508		CAPE FARMS - DISTRICT B		
1	0030031569		CAPE FARMS - DISTRICT B		
1	0030031805		CAPE FARMS - DISTRICT C		
1	0030031852		WESFLEUR		
1	0030031852		WESFLEUR		
1	0030031985		RIVERGATE		
1	0030031985	2017/10/15	RIVERGATE		
1	0030032039	2017/10/16	SUNNINGDALE		
1	0030032100	2017/10/18	CAPE FARMS - DISTRICT B		
1	0030032154	2017/10/18	ATLANTIS INDUSTRIAL		
1	0030032292	2017/10/20	PELLA		
1	0030032338	2017/10/21	SAXONSEA		
1	0030032375	2017/10/21	MELKBOSCH STRAND		
1	0030032375	2017/10/21	MELKBOSCH STRAND		
1	0030032466	2017/10/22	TABLE VIEW		
1	0030032466	2017/10/22	TABLE VIEW		
1	0030032484	2017/10/22	WITSAND		
1	0030032484	2017/10/22	WITSAND		
1	0030032517		ATLANTIS INDUSTRIAL		
1	0030032531	2017/10/24	BEACON HILL		
1	0030032535		WESFLEUR		
1	0030032595	2017/10/24	ATLANTIS INDUSTRIAL		
1	0030032595		ATLANTIS INDUSTRIAL		
1	0030032658		PARKLANDS		
1	0030032813		CAPE FARMS - DISTRICT C		
1	0030032825		PARKLANDS		
1	0030032825		PARKLANDS		
1	0030032831		BLAAUWBERGSTRAND		
1	0030032836		ATLANTIS INDUSTRIAL		
1	0030032836		ATLANTIS INDUSTRIAL		
1	0030032847				
1	0030032847		SAXONSEA		
1	0030032943		CAPE FARMS - DISTRICT B		
1	0030032950		MELKBOSCH STRAND		
1	0030033141	2017/10/30	WESFLEUR		



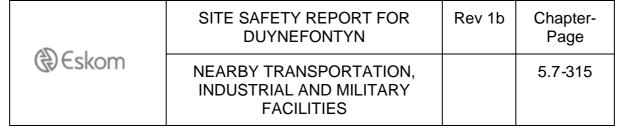
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	0030033149	2017/10/30	CAPE FARMS - DISTRICT B		
1	0030033149	2017/10/30	CAPE FARMS - DISTRICT B		
1	0030033156				
1	0030033179	1	WESFLEUR		
1	0030033201	2017/10/30	CAPE FARMS - DISTRICT B		
1	0030033236	2017/10/30	BEACON HILL		
1	0030033241	2017/10/31	TABLE VIEW		
1	0030033243	2017/10/30	ATLANTIS INDUSTRIAL		
1	0030033261	2017/10/31	TABLE VIEW		
1	0030033430		MELKBOSCH STRAND		
1	0030033430	2017/11/02	MELKBOSCH STRAND		
1	0030033474	2017/11/02	WITSAND		
1	0030033474	2017/11/02	WITSAND		
1	0030033554	2017/11/04	CAPE FARMS - DISTRICT B		
1	0030033649	2017/11/05	CAPE FARMS - DISTRICT B		
1	0030033684	2017/11/05	ATLANTIS INDUSTRIAL		
1	0030033742	2017/11/06	ATLANTIS INDUSTRIAL		
1	0030033779	2017/11/06	SAXONSEA		
1	0030033779	2017/11/06	SAXONSEA		
1	0030033869	2017/11/07	ATLANTIS INDUSTRIAL		
1	0030033869	2017/11/07	ATLANTIS INDUSTRIAL		
1	0030033983		MELKBOSCH STRAND		
1	0030033983	2017/11/08	MELKBOSCH STRAND		
1	0030034033		MELKBOSCH STRAND		
1	0030034059		MELKBOSCH STRAND		
1	0030034304	2017/11/11	WESFLEUR		
1	0030034304	2017/11/11	WESFLEUR		
1	0030034321		WESFLEUR		
1	0030034371	1	WESFLEUR		
1	0030034372		PARKLANDS		
1	0030034372		PARKLANDS		
1	0030034410		ATLANTIS INDUSTRIAL		
1	0030034410		ATLANTIS INDUSTRIAL		
1	0030034422	1	WESFLEUR		
1	0030034423		CAPE FARMS - DISTRICT B		
1	0030034425	1	WESFLEUR		
1	0030034425		WESFLEUR		
1	0030034426		WESFLEUR		
1	0030034426		WESFLEUR		
1	0030034429		WESFLEUR		
1	0030034486		ATLANTIS INDUSTRIAL		
1	0030034522		CAPE FARMS - DISTRICT B		
1	0030034522		CAPE FARMS - DISTRICT B		
1	0030034630	1	WESFLEUR		
1	0030034704	2017/11/16	CAPE FARMS - DISTRICT B		



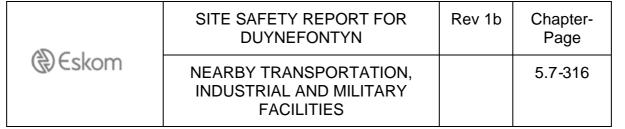
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	0030034754	2017/11/17	WESFLEUR		That the Dunning
1	0030034763		ATLANTIS INDUSTRIAL		
1	0030034703		ATLANTIS INDUSTRIAL		
1	0030034832	i	CAPE FARMS - DISTRICT B		
1	0030034920		CAPE FARMS - DISTRICT B		
1	0030034980	2017/11/19	TABLE VIEW		
1	0030035083	2017/11/20	CAPE FARMS - DISTRICT B		
1	0030035214		ATLANTIS INDUSTRIAL		
1	0030035236		ATLANTIS INDUSTRIAL		
1	0030035258	2017/11/22	WESFLEUR		
1	0030035238		WITSAND		
1	0030035388	2017/11/24	WITSAND		
1	0030035388		CAPE FARMS - DISTRICT B		
1	0030035391		ATLANTIS INDUSTRIAL		
1	0030035393		ATLANTIS INDUSTRIAL		
1	0030035533				
1	0030035533	2017/11/25			
1	0030035550	2017/11/25			
1	0030035550	2017/11/25	PARKLANDS		
1	0030035559	i	WESFLEUR		
1	0030035659		WESFLEUR		
1	0030035815		ATLANTIS INDUSTRIAL		
1	0030035816		WESFLEUR		
1	0030035816				
1	0030035877		WESFLEUR		
1	0030035883	2017/11/28	CAPE FARMS - DISTRICT B		
1	0030035916		BEACON HILL		
1	0030035916		BEACON HILL		
1	0030036105	2017/11/30			
1	0030036133	i	WESFLEUR		
1	0030036134	2017/11/30			
1	0030036149	2017/11/30			
1	0030036149	2017/11/30			
1	0030036189		BEACON HILL		
1	0030036189	i	BEACON HILL		
1	0030036322		ATLANTIS INDUSTRIAL		
1	0030036496		ATLANTIS INDUSTRIAL		
1	0030036624		WESFLEUR		
1	0030036631		SAXONSEA		
1	0030036671		CAPE FARMS - DISTRICT C		
1	0030036708		BEACON HILL		
1	0030036753	i	TABLE VIEW		
1	0030036783		CAPE FARMS - DISTRICT C		
1	0030036829		TABLE VIEW		
1	0030036843	i	WESFLEUR		



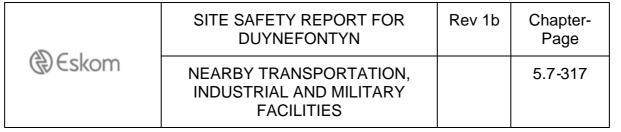
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	0030036887	2017/12/07	PHILADELPHIA	,	
1	0030036887		PHILADELPHIA		
1	0030036895		CAPE FARMS - DISTRICT B		
1	0030036913	i	ATLANTIS INDUSTRIAL		
1	0030036933	2017/12/07	MELKBOSCH STRAND		
1	0030037037	2017/12/08	WITSAND		
1	0030037037		WITSAND		
1	0030037059		ATLANTIS INDUSTRIAL		
1	0030037210	2017/12/10			
1	0030037210	2017/12/10			
1	0030037212	2017/12/09	WESFLEUR		
1	0030037235	2017/12/10	WITSAND		
1	0030037235	2017/12/10	WITSAND		
1	0030037241	2017/12/10	SAXONSEA		
1	0030037241	2017/12/10	SAXONSEA		
1	0030037241	2017/12/10	SAXONSEA		
1	0030037268	2017/12/10	CAPE FARMS - DISTRICT B		
1	0030037275	2017/12/10	CAPE FARMS - DISTRICT B		
1	0030037275		CAPE FARMS - DISTRICT B		
1	0030037428		WESFLEUR		
1	0030037428		WESFLEUR		
1	0030037520	i	ATLANTIS INDUSTRIAL		
1	0030037533	i	CAPE FARMS - DISTRICT B		
1	0030037533		CAPE FARMS - DISTRICT B		
1	0030037536		CAPE FARMS - DISTRICT B		
1	0030037550		ATLANTIS INDUSTRIAL		
1	0030037582		SUNNINGDALE		
1	0030037614		CAPE FARMS - DISTRICT B		
1	0030037626		SUNNINGDALE		
1	0030037651		BLAAUWBERGSTRAND		
1	0030037687		MALMESBURY FARMS		
1	0030037687		MALMESBURY FARMS		
1	0030037742	i	WESFLEUR		
1	0030037765		TABLE VIEW		
1	0030037840	2017/12/16			
1	0030037840	2017/12/16			
1	0030037924	2017/12/16	WESFLEUR		
1	0030037997	2017/12/17			
1	0030037997		CAPE FARMS - DISTRICT B		
1	0030037998		WESFLEUR		
1	0030038009		PARKLANDS		
1	0030038053		PARKLANDS		
1					
1		i			
1	0030038055 0030038115	i	WESFLEUR ATLANTIS INDUSTRIAL		



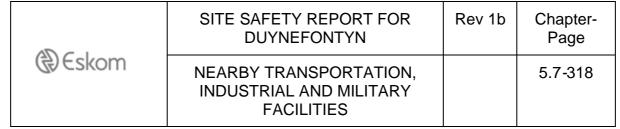
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	0030038133		CAPE FARMS - DISTRICT B	. ,	
1	0030038142		BEACON HILL		
1	0030038142		BEACON HILL		
1	0030038188		CAPE FARMS - DISTRICT B		
1	0030038198		ATLANTIS INDUSTRIAL		
1	0030038198		ATLANTIS INDUSTRIAL		
1	0030038208		ATLANTIS INDUSTRIAL		
1	0030038208		ATLANTIS INDUSTRIAL		
1	0030038242		WESFLEUR		
1	0030038242		WESFLEUR		
1	0030038250	2017/12/19			
1	0030038293		TABLE VIEW		
1	0030038303		ATLANTIS INDUSTRIAL		
1	0030038303		ATLANTIS INDUSTRIAL		
1	0030038355		WESFLEUR		
1	0030038540		ATLANTIS INDUSTRIAL		
1	0030038586		ATLANTIS INDUSTRIAL		
1	0030038727		WESFLEUR		
1	0030038843		SAXONSEA		
1	0030038853		WESFLEUR		
1	0030038863		CAPE FARMS - DISTRICT B		
1	0030038881	2017/12/24	WESFLEUR		
1	0030038892		ATLANTIS INDUSTRIAL		
1	0030039001	2017/12/25	AVONDALE		
1	0030039053	2017/12/26	WESFLEUR		
1	0030039053	2017/12/26	WESFLEUR		
1	0030039083	2017/12/26	SUNNINGDALE		
1	0030039131	2017/12/26	WITSAND		
1	0030039131	2017/12/26	WITSAND		
1	0030039160	2017/12/27	PARKLANDS		
1	0030039160	2017/12/27	PARKLANDS		
1	0030039226	2017/12/28	CAPE FARMS - DISTRICT B		
1	0030039226		CAPE FARMS - DISTRICT B		
1	0030039358		WESFLEUR		
1	0030039449		ATLANTIS INDUSTRIAL		
1	0030039458	2017/12/30			
1	0030039458	2017/12/30	PELLA		
2040.	444				
2018:	144 0030039784	2018/01/02	MELKBOSCH STRAND		Formal
1	0030039784	2018/01/02	MELKBOSCH STRAND		Formal
1	0030039764	2018/01/03	WITSAND		Informal
1	0030039848	2018/01/03	WITSAND		Informal
1	0030039878	2018/01/03	SAXONSEA		Rubbish, grass & bush
1		2018/01/03	BEACON HILL		Miscellaneous Fires



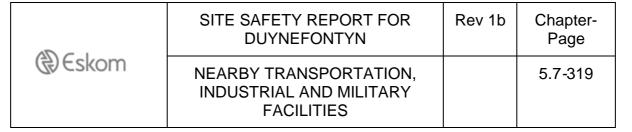
	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	0030039884	2018/01/03	BEACON HILL		Miscellaneous Fires
1	0030039888	2018/01/03	ATLANTIS INDUSTRIAL		Rubbish, grass & bush
1	0030039994	2018/01/04	ATLANTIS INDUSTRIAL		Rubbish, grass & bush
1	0030040036	2018/01/05	CAPE FARMS - DISTRICT B		Rubbish, grass & bush
1	0030040068	2018/01/05	WESFLEUR		Rubbish, grass & bush
1	0030040104	2018/01/05	SAXONSEA		Cars & Motor Cycles
1	0030040325	2018/01/08	SAXONSEA		Formal
1	0030040475	2018/01/10	AVONDALE		Rubbish, grass & bush
1	0030040475	2018/01/10	AVONDALE		Rubbish, grass & bush
1	0030040562	2018/01/11	BEACON HILL		Rubbish, grass & bush
1	0030040580	2018/01/11	WESFLEUR		Rubbish, grass & bush
1	0030040599	2018/01/11	CAPE FARMS - DISTRICT B		Rubbish, grass & bush
1	0030040650	2018/01/12	MELKBOSCH STRAND		Rubbish, grass & bush
1	0030040655	2018/01/12	BEACON HILL		Rubbish, grass & bush
1	0030040661	2018/01/12	SAXONSEA		Informal
1	0030040688	2018/01/12	WESFLEUR		Unknown
1	0030040815	2018/01/13	SUNNINGDALE		Rubbish, grass & bush
1	0030040815	2018/01/13	SUNNINGDALE		Rubbish, grass & bush
1	0030040909	2018/01/14	WESFLEUR		Rubbish, grass & bush
1	0030041106	2018/01/16	WESFLEUR		Rubbish, grass & bush
1	0030041142	2018/01/16	WESFLEUR		Rubbish, grass & bush
1	0030041475	2018/01/20	CAPE FARMS - DISTRICT B		Rubbish, grass & bush
1	0030041745	2018/01/22	PARKLANDS		Rubbish, grass & bush
1	0030041813	2018/01/23	WITSAND		Informal
1	0030041813	2018/01/23	WITSAND		Informal
1	0030041919	2018/01/25	ATLANTIS INDUSTRIAL		Rubbish, grass & bush
1	0030041919	2018/01/25	ATLANTIS INDUSTRIAL		Rubbish, grass & bush
1	0030042031	2018/01/26	CAPE FARMS - DISTRICT B		Rubbish, grass & bush
1	0030042033	2018/01/26	ATLANTIS INDUSTRIAL		Rubbish, grass & bush
1	0030042033	2018/01/26	ATLANTIS INDUSTRIAL		Rubbish, grass & bush
1	0030042057	2018/01/26	SUNNINGDALE		Rubbish, grass & bush
1	0030042074	2018/01/27	WITSAND		Formal
1	0030042228	2018/01/28	BLAAUWBERGSTRAND		Formal
1	0030042254	2018/01/28	CAPE FARMS - DISTRICT B		Rubbish, grass & bush
1	0030042254	2018/01/28	CAPE FARMS - DISTRICT B		Rubbish, grass & bush
1	0030042391	2018/01/29	ATLANTIS INDUSTRIAL		Rubbish, grass & bush
1	0030042392	2018/01/29	CAPE FARMS - DISTRICT B		Unknown
1	0030042482	2018/01/30	CAPE FARMS - DISTRICT B		Rubbish, grass & bush
1	0030042484	2018/01/30	CAPE FARMS - DISTRICT B		Rubbish, grass & bush
1	0030042486	2018/01/30	CAPE FARMS - DISTRICT B		Rubbish, grass & bush
1	0030042491	2018/01/30	CAPE FARMS - DISTRICT B		Rubbish, grass & bush
1	0030042526	2018/01/31	ATLANTIS INDUSTRIAL		Rubbish, grass & bush
1	0030042529	2018/01/31	CAPE FARMS - DISTRICT B		Cars & Motor Cycles
1	0030042535	2018/01/31	WESFLEUR		Rubbish, grass & bush
1	0030042546	2018/01/31	SUNNINGDALE		Rubbish, grass & bush



	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	0030042546	2018/01/31	SUNNINGDALE		Rubbish, grass & bush
1	0030042685	2018/02/01	AVONDALE - WESFLEUR		Formal
1	0030042685	2018/02/01	AVONDALE - WESFLEUR		Formal
1	0030042753	2018/02/02	AVONDALE - WESFLEUR		Informal
1	0030042753	2018/02/02	AVONDALE - WESFLEUR		Informal
1	0030042790	2018/02/03	CAPE FARMS - DISTRICT B		Informal
1	0030042882	2018/02/03	BIG BAY		Rubbish, grass & bush
1	0030042941	2018/02/04	CAPE FARMS - DISTRICT B		Rubbish, grass & bush
1	0030042988	2018/02/04	AVONDALE - WESFLEUR		Rubbish, grass & bush
1	0030043075	2018/02/05	WESFLEUR		Rubbish, grass & bush
1	0030043097	2018/02/05	CAPE FARMS - DISTRICT B		Rubbish, grass & bush
1	0030043097	2018/02/05	CAPE FARMS - DISTRICT B		Rubbish, grass & bush
1	0030043108	2018/02/05	BEACON HILL		Rubbish, grass & bush
1	0030043108	2018/02/05	BEACON HILL		Rubbish, grass & bush
1	0030043204	2018/02/06	PARKLANDS		Rubbish, grass & bush
1	0030043204	2018/02/06	PARKLANDS		Rubbish, grass & bush
1	0030043668	2018/02/11	BEACONHILL		Rubbish, grass & bush
1	0030043671	2018/02/11	ATLANTIS INDUSTRIAL		Rubbish, grass & bush
1	0030043757	2018/02/12	TABLE VIEW		Rubbish, grass & bush
1	0030043757	2018/02/12	TABLE VIEW		Rubbish, grass & bush
1	0030043762	2018/02/12	TABLE VIEW		Rubbish, grass & bush
1	0030043804	2018/02/13	MAMRE		Formal
1	0030043804	2018/02/13	MAMRE		Formal
1	0030043811	2018/02/13	WESFLEUR		Rubbish, grass & bush
1	0030043811	2018/02/13	WESFLEUR		Rubbish, grass & bush
1	0030043843	2018/02/13	MAMRE		Rubbish, grass & bush
1	0030043843	2018/02/13	MAMRE		Rubbish, grass & bush
1	0030043851	2018/02/13	CAPE FARMS - DISTRICT B		Rubbish, grass & bush
1	0030043881	2018/02/14	WESFLEUR		Rubbish, grass & bush
1	0030044224	2018/02/18	MALMESBURY FARMS		Rubbish, grass & bush
1	0030044224	2018/02/18	MALMESBURY FARMS		Rubbish, grass & bush
1	0030044430	2018/02/21	PARKLANDS		Rubbish, grass & bush
1	0030044430	2018/02/21	PARKLANDS		Rubbish, grass & bush
1	0030044637	2018/02/23	CAPE FARMS - DISTRICT C		Rubbish, grass & bush
1	0030044734	2018/02/24	MAMRE		Rubbish, grass & bush
1	0030044906	2018/02/26	ATLANTIS INDUSTRIAL		Cars & Motor Cycles
1	0030044907	2018/02/26	SAXONSEA		Rubbish, grass & bush
1	0030044959	2018/02/26	SUNNINGDALE		Rubbish, grass & bush
1	0030044959	2018/02/26	SUNNINGDALE		Rubbish, grass & bush
1	0030044963	2018/02/26	AVONDALE - WESFLEUR		Rubbish, grass & bush
1	0030044977	2018/02/26	WESFLEUR		Rubbish, grass & bush
1	0030045132 0030045315	2018/02/28 2018/03/02	MALMESBURY FARMS CAPE FARMS - DISTRICT B		Rubbish, grass & bush Rubbish, grass & bush
1	0030045315	2018/03/02	CAPE FARMS - DISTRICT B		Rubbish, grass & bush
1	0030045316	2018/03/02	WESFLEUR		Rubbish, grass & bush
	0030043316	2010/03/02	WESTLEUK		rannin, giass a nusii



	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	0030045447	2018/03/03	TABLE VIEW		Flats
1	0030045553	2018/03/04	ATLANTIS INDUSTRIAL		Rubbish, grass & bush
1	0030045566	2018/03/04	RIVERGATE		Rubbish, grass & bush
1	0030045566	2018/03/04	RIVERGATE		Rubbish, grass & bush
1	0030045576	2018/03/04	CAPE FARMS - DISTRICT B		Rubbish, grass & bush
1	0030045588	2018/03/04	BEACON HILL		Rubbish, grass & bush
1	0030045743	2018/03/06	CAPE FARMS - DISTRICT B		Rubbish, grass & bush
1	0030045748	2018/03/07	WESFLEUR		Rubbish, grass & bush
1	0030045748	2018/03/07	WESFLEUR		Rubbish, grass & bush
1	0030045951	2018/03/09	RIVERGATE		Rubbish, grass & bush
1	0030045977	2018/03/09	WESFLEUR		Rubbish, grass & bush
1	0030046000	2018/03/09	ATLANTIS INDUSTRIAL		Rubbish, grass & bush
1	0030046129	2018/03/11	AVONDALE		Rubbish, grass & bush
1	0030046372	2018/03/13	WESFLEUR		Informal
1	0030046372	2018/03/13	WESFLEUR		Informal
1	0030046372	2018/03/13	WESFLEUR		Informal
1	0030046372	2018/03/13	WESFLEUR		Informal
1	0030046372	2018/03/13	WESFLEUR		Informal
1	0030046539	2018/03/16	SUNNINGDALE		Unknown
1	0030046602	2018/03/17	WESFLEUR		Rubbish, grass & bush
1	0030046602	2018/03/17	WESFLEUR		Rubbish, grass & bush
1	0030046683	2018/03/17	CAPE FARMS - DISTRICT B		Rubbish, grass & bush
1	0030046720	2018/03/18	RIVERGATE		Rubbish, grass & bush
1	0030046720	2018/03/18	RIVERGATE		Rubbish, grass & bush
1	0030046769	2018/03/19	WESFLEUR		Rubbish, grass & bush
1	0030046769	2018/03/19	WESFLEUR		Rubbish, grass & bush
1	0030046806	2018/03/19	CAPE FARMS - DISTRICT B		Informal
1	0030046806	2018/03/19	CAPE FARMS - DISTRICT B		Informal
1	0030046812	2018/03/19	ATLANTIS		Unknown
1	0030046823	2018/03/19	CAPE FARMS - DISTRICT B		Unknown
1	0030046843	2018/03/19	WESFLEUR		Rubbish, grass & bush
1	0030047003	2018/03/22	BEACON HILL		Rubbish, grass & bush
1	0030047003	2018/03/22	BEACON HILL		Rubbish, grass & bush
1	0030047008	2018/03/22	SAXONSEA		Rubbish, grass & bush
1	0030047117	2018/03/23	CAPE FARMS - DISTRICT B		Rubbish, grass & bush
1	0030047117	2018/03/23	CAPE FARMS - DISTRICT B		Rubbish, grass & bush
1	0030047138	2018/03/23	TABLE VIEW		Unknown
1	0030047140	2018/03/23	RIVERGATE		Rubbish, grass & bush
1	0030047196	2018/03/24	CAPE FARMS - DISTRICT C		Cars & Motor Cycles
1	0030047196	2018/03/24	CAPE FARMS - DISTRICT C		Cars & Motor Cycles
1	0030047278	2018/03/25	WESFLEUR		Rubbish, grass & bush
1	0030047278	2018/03/25	WESFLEUR		Rubbish, grass & bush
1	0030047360	2018/03/26	ATLANTIS INDUSTRIAL		Rubbish, grass & bush
1	0030047375	2018/03/26	MAMRE		Rubbish, grass & bush
1	0030047375	2018/03/26	MAMRE		Rubbish, grass & bush



	Incident no.	Date of Incident	Suburb	FPA Occupancy	What Was Burning
1	0030047429	2018/03/27	TABLE VIEW		Rubbish, grass & bush
1	0030047433	2018/03/27	WITSAND		Informal
1	0030047433	2018/03/27	WITSAND		Informal

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Table F.2

Fires recorded by Cape Nature (January 2010 to December 2019)

FIRE_CODE	YEAR	LOCAL_DESC	DateStart	Ignitionca	Area_ha
GANZ/02/2014/01	2014	Groote Springfontyn (approx date from GoogleEarth)	2/25/2014	Unknown - Unknown	236.4
GANZ/11/2014/01	2014	Bokbaai	11/19/2014	Unknown - Unknown	133.9
GANZ/03/2015/01	2015	Southern portion, east of R27. Fire originated along R27 on land managed by City of Cape Town	3/6/2015	People - Arson	334.8
GANZ/04/2018/01	2018	Between Silwerstroom Resort and R27. South of Silwerstroom Rd on CCT Bulk Water gravel road.	4/9/2018	Mechanical - Powerlines	3.7
GANZ/01/2019/09	2019	Groot Springfontyn	1/31/2019	People - Arson	11.5
GANZ/01/2019/09	2019	Groot Springfontyn	1/31/2019	People - Arson	1.1
GANZ/01/2019/03	2019	Groote Springfontyn - neigbouring property	1/9/2019	People - Arson	0.0
GANZ/01/2019/03	2019	Groote Springfontyn - neigbouring property	1/9/2019	People - Arson	0.0
GANZ/01/2019/01	2019	Buffelsrivier	1/4/2019	People - Arson	0.0
GANZ/01/2019/03	2019	Groote Springfontyn - neigbouring property	1/9/2019	People - Arson	42.4
GANZ/01/2019/09	2019	Groot Springfontyn	1/31/2019	People - Arson	26.3
GANZ/01/2019/02	2019	Buffelsrivier near Groote Springfontyn boundary, close to R27	1/5/2019	People - Arson	2.8
GANZ/01/2019/04	2019	Silverstream road	1/18/2019	Unknown - Unknown	0.3
GANZ/01/2019/08	2019	Groote Springfontyn neigbouring property	1/31/2019	People - Arson	12.6
GANZ/01/2019/09	2019	Groot Springfontyn	1/31/2019	People - Arson	3.0
GANZ/01/2019/02	2019	Buffelsrivier near Groote Springfontyn boundary, close to R27	1/5/2019	People - Arson	25.2
GANZ/01/2019/03	2019	Groote Springfontyn - neigbouring property	1/9/2019	People - Arson	0.1
GANZ/01/2019/01	2019	Buffelsrivier	1/4/2019	People - Arson	0.7
GANZ/01/2019/01	2019	Buffelsrivier	1/4/2019	People - Arson	0.2
GANZ/01/2019/03	2019	Groote Springfontyn - neigbouring property	1/9/2019	People - Arson	0.7
GANZ/01/2019/09	2019	Groot Springfontyn	1/31/2019	People - Arson	6.4
GANZ/02/2019/04	2019	North eastern boundary - Rooipad	2/12/2019	Unknown - Unknown	69.5
GANZ/02/2019/01	2019	Farm 982 along Silverstream Road - neighbouring property	2/1/2019	Unknown - Unknown	3.5

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Table F3 Fires recorded by Eskom at or near the Duynefontyn Site (2016 to 2023)

Date	Origin and Spread	Cause	Damage
16/02/2016 (also recorded in the CTT fire data))	Originated at Bush Pub on Portion 17 Farm 1063 (SW) and spread into the Koeberg Nature Reserve (KNR).	Passerby dropping a lighted cigarette.	1 800 ha burnt of which 640 ha of the KNR. 6.14 km of fencing destroyed. Cabling on borehole pump destroyed, damage to firefighting equipment and mobile equipment, 2.2 km of road damaged, loss of biodiversity.
07/03/2016 (also recorded in the CTT fire data)	Originated on adjacent farm fire was spreading towards farm 1063/20 east of the R27.	Grinder sparks ignited the veld.	No property loss or loss of biodiversity.
18/05/2016 (not recorded by CTT or Capenature)	Originated at the CCT boreholes within the KNR.	One of the CCT cables at the boreholes snapped and set the veld alight.	Minor veld fire.
05/12/2016 (not recorded by CTT or Capenature)	Originated 200 m north of Delta 200.	Unknown	None reported.
19/12/2016 (not recorded by CTT or Capenature)	Originated 200 m north of Delta 200.	Unknown	None reported.
05/01/2017 (also recorded in the CTT fire data, Appendix A)	East of the R27.	Unknown	Vegetation damage.
09/01/2019 (also recorded in the Capenature fire data, <u>Appendix B</u>)	Farm Kleine Springfontein.	Arson by poachers.	Vegetation damage.

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Date	Origin, location and spread	Cause	Damage
24/01/2019	Kleine Zouterivier area	Unknown	Vegetation damage.
12/02/2019	Near Charlies Wood on the M19	Unknown	Vegetation damage.
27/10/2022	Originated at neigbouring property to the southeast of the KNR.	Unknown	2.4 ha of veld burnt.
27/11/2023	Originated at corner of the R27 and the Brakkefontein Road to the northeast.	Unknown	Vegetation damage.
04/12/2023	Originated at Klein Zouterivier Road to the southeast.	Unknown	Vegetation damage.
04/12/2023	Second fire started at 16:12 on the Klein Zouterivier Road.	Children	Vegetation damage.
24/12/2024 to 27/12/2023	Originated at Charly's Wood near the M19. From there it spread toward the smallholdings on the southern side of the Klein Zouterivier Road. The fire spread onto Erf 3132 on 25/12/2023, and was stopped at the firebreak as it jumped the R27.	Unknown	Vegetation damage.

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Appendix G: Emergency Services in the Site Region

	Name of facility	Business Address	Туре	Distance	Direction	Number of Personnel	Number of EMS Vehicles	Number of EMS Vessels	Number of Hospital Beds
	AMBULANCE SERVICE								
ES7	Community Medics West Metro	Estoril Road, Killarney Gardens	Ambulance	SSE	19.28	40	2	~	~
ES35	Community Medics Camps Bay & ASB	The Retreat, Argyle Street, Camps Bay	Ambulance	\$	30.68	21	2	2	~
ES82	CMR Med	106 Kommetjie Rd, Fish Hoek	Ambulance	S	50.86	22	9	2	~
ES72	EMS - Cape Metropole: Eastern Division	C/o Steve Biko and Walter Sisulu Drives, Khayelitsha, 7783	Ambulance	SSE	47.10	160	23	2	~
ES14	EMS - Cape Metropole: Northern Division	U2 Building p/o Tygerberg Hospital,Francie Van Zijl Drive, Parow Valley, 7530	Ambulance	SSE	25.83	162	33	2	~
ES30	EMS - Cape Metropole: Western Division	11 Alexandra Road, Ndabeni	Ambulance	S	29.21	249	58	2	~
ES75	EMS - Stellenbosch	P/o Stellenbosch Hospital, Marriman Road, Stellenbosch	Ambulance	SE	49.45		5	2	~
ES50	EMS - Malmesbury	PG Nelson Street, Malmesbury, 7300	Ambulance	NE	36.57	42	4	3	~
ES10	ER-24 Milnerton	Mediclinic Milnerton, c/o Racecourse and Koeberg Road, Milnerton, 7441	Ambulance	SSE	21.99	11	7	2	~
ES36	ER-24 Brackenfell	Mediclinic Cape Gate, c/o Okovango & Tanner road, Brackenfell, 7560	Ambulance	SE	31.03	6	3	~	~
ES33	ER-24 Bellville	Mediclinic Louis Leipoldt, c/o voortrekker & broadway Road, Bellville, 7800	Ambulance	SE	30.08	7	3	~	~
ES18	Netcare 911 - N1 City	Netcare N1 City Hospital, Louwtjie Rothman Street, Goodwood, 7460	Ambulance	SSE	26.83	20	3	~	~
ES47	Netcare 911 - Kuils River	Netcare Kuils River Hospital, 33 van Riebeeck Road, Kuils River	Ambulance	SE	35.08	24	4	~	~
ES5	Netcare 911 - Blaauwberg	Netcare Blaauwberg Hospital, Waterville Crescent, Sunningdale, 7441	Ambulance	SSE	14.91	9	3	2	~
ES17	Netcare 911 - CBMH	Netcare Christiaan Barnard Hospital, 181 Longmarket Street, Cape Town, 8001	Ambulance	s	26.70	28	5	2	~
ES44	Melomed 24	1 Clinic Road, Gatesville, 7764	Ambulance	SSE	33.93	40	11	~	~
ES34	Life Vincent Pallotti Life Support Unit	Alexandra Road, Pinelands	Ambulance	S	30.21	4	1	~	~
ES51	SA Red Cross Air Mercy Service Trust - Cape Town	Beechcraft Road, General Aviation Area, Cape Town International Airport	Ambulance	SSE	36.70	14	5	2	~
ES46	CPUT Department of Emergency Medical Service	Symphony Way Bellville	Ambulance	SE	34.43	18	3	2	~
ES26	St John Ambulance Service Cape Town	183 Sir Lowry Road, Woodstock, 8000	Ambulance	S	27.84	20	3	2	~
ES11	SA Paramedic Services	Unit 1, 7 Printers Way, Montague Gardens, 7441	Ambulance	SSE	23.22	30	9	2	~
ES95	GB Med Rescue	c/o Link and Mansfield Road, Gordons Bay	Ambulance	SE	67.23	12	3	2	~
ES42	Tygerberg Emergency & Support Services (TYGESS)	Unit 5, Millenuim Park, Stellenberg Close, Parow, 7500	Ambulance	SSE	33.32	16	4	2	~
ES89	Immediate Medical-Strand	3 Toni Centre, Fagan Street, Somerset West, 7130	Ambulance	SE	61.63	15	3	~	~

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	HOSPITALS		I						
	Wesfleur Hospital	Wesfleur Circle, Wesfleur, Atlantis	Hospital	NNE	13.81	~	~	~	50
-	NETCARE BLAAUWBERG	Waterville Street, Sunningdale	Hospital	SSE	14.88	~	~	~	180
$\overline{}$	MEDICLINIC MILNERTON	117 Racecourse Road, Milnerton	Hospital	SSE	22.13	~	~	~	162
_	Brooklyn Chest Hospital	Stanberry Road, Ysterplaat	Hospital	SSE	25.28	~	~	~	349
-	New Somerset Hospital	BEACH ROAD	Hospital	S	25.44	~	~	~	352
	MEDICLINIC PANORAMA	Rothschild Blvd, Panorama	Hospital	SSE	25.89	~	~	~	400
-	MEDICLINIC DURBANVILLE	Wellington Road, Durbanville	Hospital	SE	26.48	~	~	~	205
	NETCARE CHRISTIAAN BARNARD MEMORIAL HOS		Hospital	s	26.75	~	~	~	276
$\overline{}$	NETCARE N1 CITY	Louwtjie Rothman Street, N1 City	Hospital	SSE	26.81	~	~	~	210
=	Alexandra Hospital	Alexandra Road, Maitland	Hospital	S	28.53	~	~	~	300
	MEDICLINIC CAPE TOWN	21 Hof Street, Gardens	Hospital	S	28.83	~	~	~	128
-	Karl Bremer Hospital	C/o Mike Pienaar Boulevard & Frans Conradie Drive, Bellville	Hospital	SE	28.93	~	~	~	311
$\overline{}$	Valkenberg Hospital	Alexandra Way, Pinelands	Hospital	S	29.44	~	~	~	386
	GROOTE SCHUUR HOSPITAL	1 MAIN ROAD	Hospital	s	29.47	~	~	~	975
$\overline{}$	NETCARE UCT PRIVATE ACADEMIC HOSPITAL	D18 ANZIO ROAD	Hospital	s	29.50	2	~	~	103
$\overline{}$	MEDICLINIC LOUIS LEIPOLDT	BROADWAY STREET, BELLVILLE	Hospital	SE	30.06	~	~	~	186
H17	LIFE VINCENT PALLOTTI HOSPITAL	Alexandra Road, Maitland	Hospital	SSE	30.15	2	~	~	57
H18	Mowbray Maternity Hospital	12 Hornley Road, Mowbray	Hospital	s	30.53	2	~	~	205
	MELOMED BELLVILLE	Cnr Voortrekker Rd &, A J W St, Bellville	Hospital	SE	30.65	~	~	~	123
H20	Tygerberg Hospital	Fransie van Zyl Avenue, Parow	Hospital	SE	30.85	2	~	~	1384
-	MEDICLINIC CAPE GATE	Tanner Street, Cape Gate	Hospital	SE	31.07	~	~	~	150
	Red Cross War Memorial Children Hospital	Klipfontein Road, Rondebosch	Hospital	S	31.23	~	~	~	272
H23	Stikland Hospital	De La Haye Road, Stikland	Hospital	SE	32.27	~	~	~	423
H24	MELOMED GATESVILLE	Clinic Street, Gatesville	Hospital	SSE	33.90	~	~	~	200
H25	LIFE KINGSBURY HOSPITAL	Wilderness Road, Claremont 7735	Hospital	S	34.50	2	~	~	226
H26	NETCARE KUILS RIVER	33 Van Riebeeck Rofd, Kuils River	Hospital	SE	35.02	~	~	~	175
H27	Malmesbury ID Hospital	Schoonspruit Way, Malmesbury	Hospital	NE	35.31	*	~	~	49
H28	Swartland Hospital	PG Nelson Street, Malmesbury	Hospital	NE	36.57	~	~	~	41
	Victoria Hospital	Alphen Hill Road, Wynberg	Hospital	S	37.27	~	~	~	184
H30	Mediclinic Contanstiaberg	Burnham Road, Plumstead	Hospital			2	~	~	236
H31	Mitchell's Plain Hospital	8 AZ Berman Drive, Lentegeur, Mitchell's Plain	Hospital	SSE	41.85	~	~	~	395
H32	Lentegeur Hospital	C/o Highlands & AZ Berman Drives, Mitchell's Plain	Hospital	SSE	42.33	2	~	~	690
H33	DP Marais Hospital	Main Road, Retreat	Hospital	S	42.88	~	~	~	260
H34	MELOMED TOKAI	Cnr Main &, Keysers Road, Tokai	Hospital	S	43.45	*	~	~	148
H35	Eerste River Hospital	Humboldt Avenue, Eerste River	Hospital	SE	44.45	~	~	~	150
H36	MELOMED MITCHELLS PLAIN CENTRAL	Fourth Ave, Mitchells Plain Town Centre	Hospital	SSE	44.99	2	~	~	136
H37	Khayelitsha Hospital	C/o Walter Sisulu & Steve Biko Drive, Khayelitsha	Hospital	SSE	47.20	~	~	~	340
H38	MEDICLINIC STELLENBOSCH	Rokewood Road, De Boord, Stellenbosch	Hospital	SE	48.82	2	~	~	20
H39	Stellenbosch Hospital	Merriman Avenue, Stellenbosch	Hospital	SE	49.40	2	~	~	85
H40	MEDICLINIC STELLENBOSCH	1 Elsie du Toit Street, Brandwacht	Hospital	SE	50.03	2	~	~	95
H41	MEDICLINIC PAARL	62 Berlyn Street, Paarl	Hospital	E	50.10	2	~	~	143
H42	Paarl Hospital	C/o Bergriver Boulevard & Hospital Street, Paarl	Hospital	E	50.22	2	~	~	331
H43	False Bay Hospital	17th Avenue, Fish Hoek	Hospital	S	50.44	2	~	~	76
H44	Sonstraal Hospital	Meaker Street, Paarl	Hospital	E	51.65	2	~	~	84
H45	Helderberg Hospital	Hospital Road, Somerset West	Hospital	SE	59.25	~	~	~	181
H46	MEDICLINIC VERGELEGEN	Main Road, Sometset West	Hospital	SE	60.62	2	~	~	237
	STRAND PRIVATE HOSPITAL	Altena Road, Strand	Hospital	SE	61.24	2	~	~	26
-	DISASTER RISK MANAGEMENT								
	City of Cape Town	195 Hugo Street, Goodwood	Disaster Risk Management Centre	SSE	27.12	82	0	0	~
_	West Coast	Station Street, Moorreesburg	Disaster Risk Management Centre	NNE	62.08				~
-	Drakenstein	60 Breda Street, Paarl	Disaster Risk Management Centre	E	50.18	81	35	0	~
ES76	Winelands	C/o Helshoogte and Cluver road, Idasvalley Stellenbosch	Disaster Risk Management Centre	ESE	49.55	65	17	0	~

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	FIRE DEPARTMENTS								
ES2	Melkbosstrand	12 Birkenhead Dr, Melkbosstrand	Fire and Rescue Services	SSE	6.27	18	2	~	~
ES4	Atlantis	Charel Uys Drive, Atlantis	Fire and Rescue Services	NNE	11.34			~	~
ES48	Belhar	Adam Tas Road, Belhar	Fire and Rescue Services	SSE	35.88			~	~
ES38	Bellville	2 Reed Street, Bellvile	Fire and Rescue Services	SE	31.64			~	~
ES39	Bellville Belrail	Belrail Road, Bellville	Fire and Rescue Services	SE	31.78			~	~
ES45	Brackenfell	Reservoir Street, Brackenfell	Fire and Rescue Services	SE	33.94			~	~
ES20	Brookyn	Off Section Street, Brooklyn	Fire and Rescue Services	S	26.91			~	~
ES57	Constantia	Main Road, Constantia	Fire and Rescue Services	5	38.19			~	~
ES19	Durbanville	Cnr Louw and Van Der Byl streets, Durbanville	Fire and Rescue Services	SE	26.87			~	~
ES31	Epping	Cnr Jakes Gerwel Drive and Viking Way	Fire and Rescue Services	SSE	29.66			~	~
ES81	Fish Hoek	Central Circle, Fish Hoek	Fire and Rescue Services	5	50.57			~	~
ES24	Goodwood	Cnr Hugo Street and Frans Conradie Drive, Goodwood	Fire and Rescue Services	SSE	27.14			~	~
ES56	Gugulethu	Cnr NY1 and Lansdowne Road, Gugulethu	Fire and Rescue Services	SSE	38.06			~	~
ES60	Hout Bay	Main Road, Hout Bay	Fire and Rescue Services	5	39.93			~	~
ES73	Khayelitsha	Goven Mbeki Avenue, Khayelitsha	Fire and Rescue Services	SSE	47.15			~	~
ES37	Kraaifontein	Gavin Street, Kraaifontein	Fire and Rescue Services	SE	31.26			~	~
ES52	Kuils River	Fabriek Street, Kuils River	Fire and Rescue Services	SE	36.97			~	~
ES68	Lakeside	Cnr Main and Approach road, Lakeside	Fire and Rescue Services	S	45.57			~	~
ES63	Lansdowne	Lansdowne Road, Khayelitsha	Fire and Rescue Services	SSE	42.82			~	~
ES84	Macassar	Bind Street, Macassar	Fire and Rescue Services	SE	52.66			~	~
ES64	Mfuleni	Caracas Street, Mfuleni	Fire and Rescue Services	SSE	43.21			~	~
ES8	Milnerton	Koeberg Road, Milnerton	Fire and Rescue Services	SSE	21.04			~	~
ES65	Mitchell's Plain	Dagbreek Avenue, Westridge, Mitchells Plain	Fire and Rescue Services	SSE	43.34			~	~
ES58	Ottery	Cnr New Ottery and Strandfontein roads, Ottery	Fire and Rescue Services	SSE	38.58			~	~
ES27	Roeland	Roeland Street, Central Cape Town	Fire and Rescue Services	5	28.45			~	~
ES28	Salt River	Cnr Victoria and Shelley roads, Salt River	Fire and Rescue Services	S	28.80			~	~
ES25	Sea Point	Kloof Street, Sea Point	Fire and Rescue Services	5	27.18			~	~
ES85	Simon's Town	Long Beach Road, Simon's Town	Fire and Rescue Services	S	56.19			~	~
ES87	Somerset West	Cnr Spyker and Edgar streets, Somerset West	Fire and Rescue Services	SE	59.21			~	~
ES92	Strand	Cnr Broadway Boulevard and George Street, Strand	Fire and Rescue Services	SE	62.16			~	~
ES49	Wynberg	Rosemead Avenue, Wynberg	Fire and Rescue Services	S	36.52			~	~
ES91	West Coast	Station Street, Moorreesburg	Fire and Rescue Services	NNE	62.10			~	~
ES77	Winelands	Cluver Road, Stellenbosch	Fire and Rescue Services	ESE	49.61	65	17	~	~
ES80	Winelands	Bergriver Boulevard, Paarl	Fire and Rescue Services	E	50.22	81	35	~	~

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	NSRI								
ES41	Bakoven Station 2	33* 57.635′ S 18* 22.382′ E	NSRI	S	31.94	29	0	1	
ES12	Table Bay Station 3	33° 54.55′ S. 18° 25.417′ E	NSRI	S	25.39	33	1	2	
ES97	Mykonos Station 4	33* 02.842′ S, 18* 02.388′ E	NSRI	NNW	78.73	17	1	3	
ES62			NSRI	S	42.16	45	1	3	
	Hout Bay Station 8 Gordons Bay Station 9	34° 03.015′ S, 18° 20.72′ E 34° 09.861′ S, 18° 51.584′ E	NSRI	3	67.04	49	1	4	
ES94 ES86	Simon's Town Station 10	34° 11.537′ S, 18° 26.062′ E	NSRI	S	57.18	61	1	2	
ES70	Strandfontein Station 16	34° 05.117′ S, 18° 33.298′ E	NSRI	SSE	46.97	27	2	4	
ES1	Melkbosstrand Base 18	34* 47.362′ S, 18* 27.289′ E	NSRI	5	5.82	76	1	3	
ES83	Kommetjie Station 26	34° 08.300′ S, 18° 19.287′ E	NSRI	5	52.50	61	1	2	
ES66	Yzerfontein Station 34	33* 20.478′ S, 18* 08.587′ E	NSRI	NNW	45.06	29	1	2	
ES13	Ysterplaats Air Sea Rescue	-33.9048591, 18.4922946	NSRI	SSE	25.76	Uses other bases' staff	0	1 Helicopter	
	SAPS								
P26	ATHLONE	C/O JAN SMUTS AND KLIPFONTEIN ROADS	SAPS	32.35	SSE				
P3	ATLANTIS	WESTFLEUR CIRCLE, REYGERSDAL	SAPS	13.67	NNE				
P36	BELHAR	C/O PLATTEKLIP AND ARUNDEL ROADS	SAPS	35.96	SE				
P20	BELLVILLE	8 VOORTREKKER ROAD	SAPS	30.55	SE	İ			
P28	BELLVILLE SOUTH	82 KASSELVLEI ROAD	SAPS	33.11	SE	İ			
P27	BISHOP LAVIS	42 TAFELBERG ROAD	SAPS	32.66	SSE				
P6	BOTHASIG	44 STEENHOVEN STREET	SAPS	22.32	SSE				
P24	BRACKENFELL	BRACKENFELL BOULEVARD	SAPS	31.69	SE	•			
P23	CAMPS BAY	97 VICTORIA STREET	SAPS	31.36	S				
P13	CAPE TOWN CENTRAL	28 BUITENKANT STREET	SAPS	27.80	S	·			
P31	CLAREMONT	C/O FIRST AVE AND IMAM HARON RD	SAPS	34.32	S	•			
P35	CT INT AIRPORT	AT CAPE TOWN INTERNATIONAL AIRPORT	SAPS	35.91	SSE	•			
			SAPS						
P29	DARLING	5 STATION STREET		33.66	N				
P42	DELFT	MAIN ROAD	SAPS	38.66	SSE				
P43	DIEPRIVIER	104 MAIN ROAD	SAPS	39.41	\$				
P10	DURBANVILLE	2 CHURCH STREET	SAPS	26.64	SE				
P18	ELSIESRIVIER	VIKING WAY	SAPS	30.10	SSE				
P64	FISH HOEK	CORNER OF MAIN AND BANKS ROADS, FISH HOEK	SAPS	50.56	S				
P80	FRANSCHHOEK	6 BERG STREET, FRANSCHHOEK	SAPS	69.04	ESE				
P15	GOODWOOD	13 WIENER STREET	SAPS	28.50	SSE				
P78	GORDONS BAY	2 VAN DER BYL STREET, GORDON'S BAY	SAPS	67.09	SE				
P82	GRABOUW	MAIN ROAD	SAPS	75.81	SE				
P46	GRASSY PARK	REDDY AVENUE , GRASSY PARK	SAPS	41.78	S				
P71	GROOT DRAKENSTEIN, PAARL	R310 MAIN ROAD	SAPS	55.20	ESE				
P33	GUGULETU	STEVE BIKO DRIVE	SAPS	35.26	SSE				
P58	HARARE	23 MLONJI STREET VILLAGE 1	SAPS	47.06	SSE				
P79	HOPEFIELD	9 STATION STREET, HOPEFIELD	SAPS	68.09	N				
P47	HOUT BAY	C/O MAIN & NR MANDELA ROADS,HOUT BAY	SAPS	41.80	S				
P11	KENSINGTON	C/O 11TH AVE AND FACTRETON AVENUE	SAPS	26.83	SSE				
P54	KHAYELITŞHA	4 BONGA DRIVE, SITE B, BELLVILLE	SAPS	44.24	SSE				
P53	KIRSTENHOF	POLLSMOOR ROAD, KIRSTENHOF	SAPS	43.91	Ş				
P48	KLAPMUTS	OU HOOFWEG, KLAPMUTS	SAPS	42.56	ESE	[
P52	KLEINVLEI	ALBERT PHILANDER RAOD, KLEINVLEI, EERSTE RIVER	SAPS	43.59	SE				
P30	KRAAIFONTEIN	20 BOTFONTEIN ROAD	SAPS	33.98	SE				
P38	KUILSRIVIER	VAN RIEBEEK ROAD	SAPS	36.66	SE				
P21	LANGA	MENDI AVENUE	SAPS	30.93	SSE				
P81	LANGEBAAN	86 OOSTEWAL STREET, LANGEBAAN	SAPS	73.91	NNW				
P34	LANSDOWNE	5 FLAMINGO CRESCENT	SAPS	35.40	SSE				
P50	LENTEGEUR	1 MELKBOS STREET, LENTEGEUR, MITCHELLS PLAIN	SAPS	43.16	SSE				
P56	LINGELETHU WEST	MAKABENI ROAD, LINGELETHU WEST	SAPS	45.71	SSE				
P76	LWANDLE	VULINDLELE STREET, STRAND	SAPS	63.47	SE				
	MACASSAR		SAPS						
P66 P12	MAITLAND	1 HOSPITAL STREET, MACASSAR 236 VOORTREKKER STREET	SAPS	52.42 27.80	SE S	9262	2771	0	~
	MALMESBURY		SAPS	37.18	NE				
P39		PIKETBERG ROAD, MALMESBURY							
P32	MANENBERG	C/O KLIPFONTEIN AND DUINEFONTEIN ROADS	SAPS	34.69	SSE	L I			· I

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	I	I	lacas .		_	T		1	1
P65	MBEKWENI	7 SAND STREET, MBEKWENI, PAARL	SAPS	51.60	E	ļ	I		
1	MELKBOSSTRAND	C/O OTTO DU PLESSIS AND MELKBOSSTRAND DRIVE	SAPS	2.74	SSE				
49	MFULENI	EERSTERIVIER WAY , BLUE DOWNS	SAPS	43.01	SSE				
77	MILNERTON	118 KOEBERG ROAD	SAPS	22.98	SSE				
P55	MITCHELLS PLAIN	1ST AVENUE EASTRIDGE	SAPS	44.81	SSE				
P75	MOORREESBURG	33 CENTRAL STREET, MOORREESBURG	SAPS	62.02	NNE				
P19	MOWBRAY	32 MAIN ROAD	SAPS	30.55	5				
P61	MUIZENBERG	7 SCHOOL ROAD (OFF MAIN ROAD), MUIZENBERG	SAPS	48.03	S				
240	NYANGA	NTLANGANO CRESCENT, NYANGA	SAPS	37.33	SSE				
67	OCEAN VIEW	SLANGKOP ROAD, AT TURN OFF TO SCARBOROUGH	SAPS	52.43	5				
P63	PAARL	BERG RIVER BOULEVARD, PAARL	SAPS	50.26	E				
69	PAARL EAST	CNR MEACKER AND VD STEL STREET, NEW ORLEANS	SAPS	53.41	E	Ī			
P16	PAROW	ARNOLD WILHELM STREET	SAPS	29.48	SSE	Ī			
24	PHILADELPHIA	MAIN ROAD	SAPS	14.06	E	Ī			
941	PHILIPPI	C/O LOWER OTTERY AND GOVAN MBEKI ROADS	SAPS	37.36	SSE	Ī			
45	PHILLIPI EAST	1 NGQWANGI DRIVE, PHILLIPI EAST	SAPS	40.40	SSE	Ī			
17	PINELANDS	JAN SMUTS DRIVE	SAPS	29.80	SSE	İ			
22	RAVENSMEAD	153 CHRISTIANS STREET	SAPS	31.27	SSE	İ			
70	RIEBEECK WEST	HOF STREET, RIEBEECK WEST	SAPS	54.68	NE	İ			
25	RONDEBOSCH	8 CHURCH STREET	SAPS	31.89	S	İ			
44	SAMORA MACHEL	C/O OLIVER TAMBO AND LILLIAN NGOYI STREET, WELTEVREDEN VALLEY	SAPS	39.98	SSE	İ			
83	SARON	56 GRAAN STREET, SARON	SAPS	76.76	NE	İ			
8	SEA POINT	C/O BAY RD AND BILL PETERS DRIVE	SAPS	25.51	S	Ī			
72	SIMONS TOWN	ST GEORGE STREET	SAPS	57.26	S	İ			
77	SIR LOWRYS PASS VILLAGE	MAIN ROAD, SIR LOWRY'S PASS, OPPOSITE POST OFFICE	SAPS	66.08	SE	İ			
73	SOMERSET WEST	181 MAIN ROAD, SOMERSET WEST	SAPS	58.54	SE	İ			
51	STEENBERG	CRADOCK ROAD, OFF CONCERT BOULEVARD, RETREAT	SAPS	43.33	S	İ			
62	STELLENBOSCH	23 DU TOIT STREET	SAPS	48.69	SE	İ			
60	STELLENBOSCH, CLOETESVILLE	TENNANT STREET, CLOETESVILLE, STELLENBOSCH	SAPS	47.71	SE	İ			
59	STELLENBOSCH, KAYAMANDI	MASITANDANE ROAD, KAYA MANDI	SAPS	47.08	SE	İ			
74	STRAND	6 ALTENA ROAD	SAPS	61.19	SE	İ			
57	STRANDFONTEIN	CNR OF WITSANDS AND SPINE ROAD, STRANDFONTEIN	SAPS	45.84	SSE	İ			
9	TABLE BAY HARBOUR	DUNCAN ROAD	SAPS	26.63	S	İ			
5	TABLE VIEW	18 PENTZ DRIVE	SAPS	17.42	SSE	İ			
85	TULBAGH	PIET RETIEF STREET, NEXT TO MAGISTRATE COURT, TULBAGH	SAPS	78.69	ENE	İ			
68	WELLINGTON	28 JAN VAN RIEBEEK ROAD	SAPS	53.39	E	İ			
84	WOLSELEY	10 WHITE STREET, WOLSELEY	SAPS	77.14	ENE	t	I		
14	WOODSTOCK	93 VICTORIA ROAD	SAPS	28.00	S	†	I		
37	WYNBERG	CHURCH STREET	SAPS	36.44	S	t	I		
2	BIG BAY	1 HANG TEN ROAD, BIG BAY	SAPS	13.20	S				

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	CCT METRO POLICE								
ES40	Bonteheuwel	Jakkalsvlei Avenue, Bonteheuwel	Metro Police	SSE	31.91	402	~	~	~
ES22	HQ	101 Hertzog Boulevard, Cape Town City Centre	Metro Police	5	27.09		~	~	~
ES71	Khayelitsha	Goven Bheki Road, Khayelitsha	Metro Police	SSE	47.06		~	~	~
ES59	Philippi East	Telkom Building, Rockchester Road, Philippi East	Metro Police	SSE	39.42		~	~	~
	TRAFFIC DEPARTMENTS								
ES3	Atlantis	Ivan Hampshire PI, Atlantis Industrial	Traffic Dept	NNE	11.30		200	~	~
ES6	Mamre	Main Road, Mamre	Traffic Dept	NNE	18.63	1			~
ES38	Bellville	2 Reed Street, Bellville	Traffic Dept	SE	31.64				~
ES43	Brackenfell	C/o Kruisfontein Road and Reservoir Road, Protea Heights, Brackenfell	Traffic Dept	SE	33.72				~
ES16	Durbanville	C/o De Villiers Drive and Church Street, Durbanville	Traffic Dept	SE	26.68	Ī			~
ES29	Elsiesrivier	C/o Oasis and Ramone Street, Elsies River	Traffic Dept	SSE	28.85	Ī			~
ES15	Gallows Hill	Somerset Road, Greenpoint	Traffic Dept	S	26.02				~
ES21	Goodwood	C/o Frans Conradie and Hugo Street, Goodwood	Traffic Dept	SSE	27.05	Ī			~
ES96	Gordons Bay	Mansfield Crescent, Gordon's Bay	Traffic Dept	SE	67.48	200			~
ES54	Hillstar	Plantation Road, Ottery	Traffic Dept	S	37.20				~
ES53	Kuils River	Fabriek Street, Kuils River	Traffic Dept	SE	37.10				~
ES69	Lingelethu	c/o Makabeni and Zakhele Roads, Khayelitsha	Traffic Dept	SSE	45.68				~
ES9	Milnerton	William Penn Drive, Milnerton	Traffic Dept	SSE	21.09				~
ES66	Mitchells Plain	Katdoring and 5th Avenue, Eastridge, Mitchell's Plain	Traffic Dept	SSE	45.21				~
ES32	Parow	20 Beacon Road, Beaconvale, Parow	Traffic Dept	SSE	29.67				~
ES61	Philipi East	C/o Stock and Market Street, Phillipi-East	Traffic Dept	SSE	40.45				~
ES88	Strand	C/o Fagan and Main Road, Strand	Traffic Dept	SE	61.05				~
ES55	Swartland, Malmesbury	Piketberg Way, Malmesbury	Traffic Dept	NE	37.34	21	10	~	~
ES93	Swartland, Moorreesburg	31 River Street, Moorreesburg	Traffic Dept	NNE	62.36	21	10	~	~
ES79	Drakenstein	Bergrivier Boulevard, Paarl	Traffic Dept	E	50.21	81	35	~	~
ES74	Stellenbosch	1 Joubert Street, Stellenbosch	Traffic Dept	SE	48.77	65	17	~	~