

# Appendix G9 Electrical Engineering Services Report

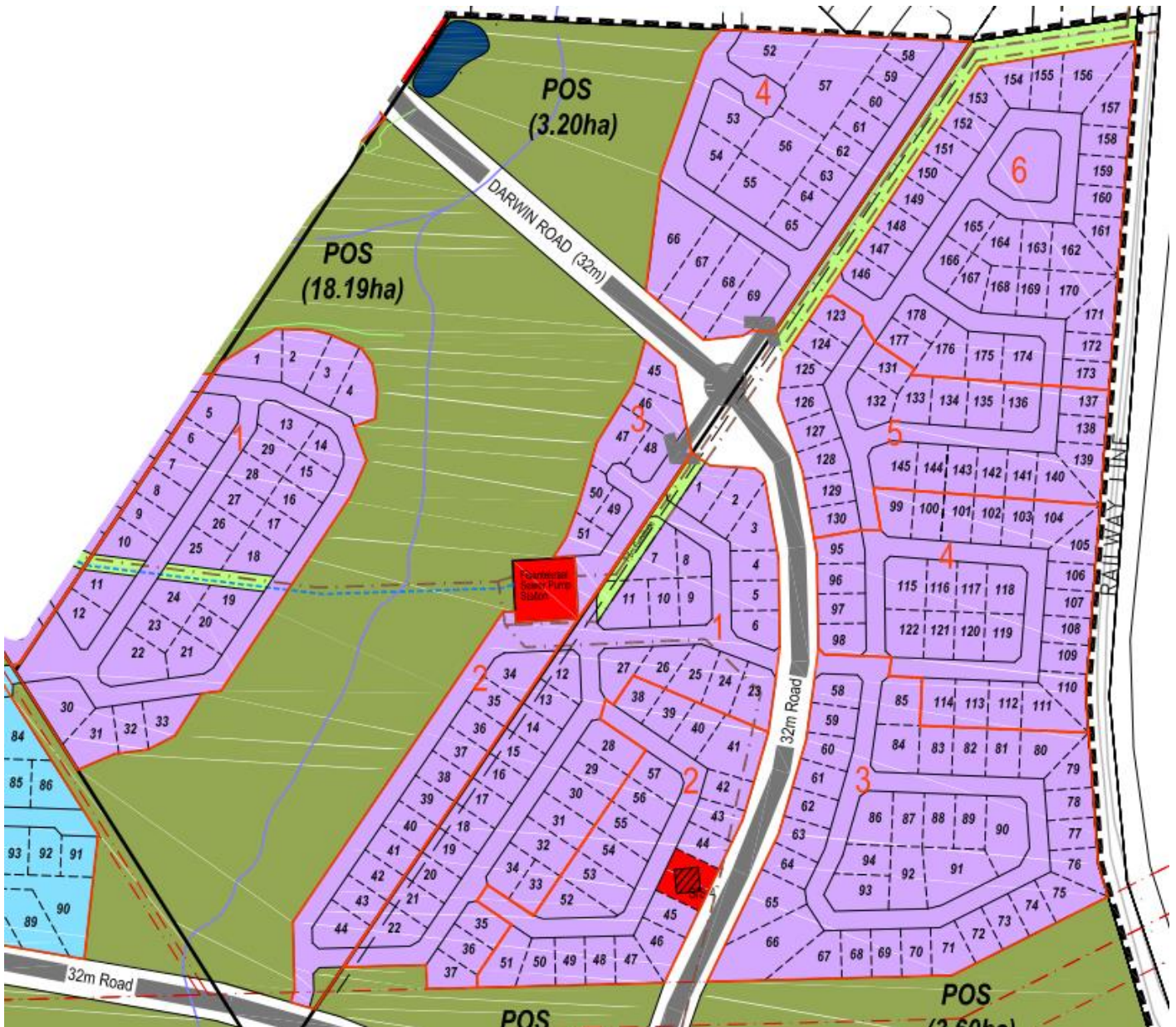
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# FISANTEKRAAL – ERF 1991 & PORTION 5 OF FARM 724



## SERVICES REPORT FOR BULK ELECTRICAL RETICULATION

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REVISION 1

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# **FISANTEKRAAL DEVELOPMENT, ERF 1991 & PORTION 5 OF FARM 724: SERVICES REPORT FOR THE BULK ELECTRICITY CONNECTION**

## **1. INTRODUCTION**

- 1.1 This report covers the bulk electricity for erf 1991 and portion 5 of farm 724, in Fisantekraal. The property is undeveloped and has limited existing services to the farm.
- 1.2 A loading of 50VA/m<sup>2</sup> was allowed for the 178 light industrial units. The total development load will be 8 973kVA for the development (6 729.75kVA after 75% diversity applied).

## **2. SITE LOCATION AND AMENDED SUBDIVISION**

- 2.1 The site is situated in Fisantekraal. Access to the site is off Darwin Road.

## **3. EXISTING INFRASTRUCTURE**

- 3.1 There is no existing infrastructure in the development, the area is undeveloped.

## **4. PROPOSED BULK ELECTRICITY**

- 4.1 Eskom is the Supply Authority for the area.
- 4.2 Eskom confirmed that the area currently has 6.5 MVA available for the affected and surrounding area, they also confirmed that they are in discussions with other developments and will not be able to reserve any power until the application has been completed, an agreement has been signed and quotation has been paid.
- 4.3 All industrial properties will be fed via a medium-voltage and low-voltage network that will be designed and implemented in accordance with Eskom requirements.
- 4.4 Eskom is willing to allow up to 5MVA (Master plan loading) to be developed, or until the first MV ring is completed, before a switching substation (brick-built substation) is required.
- 4.5 To unlock the available capacity, the existing step-down substation (Fisantekraal) is to be enlarged to allow for more breakers (at the developer's cost). Two breakers are required, to allow a ring through the development.
- 4.6 Since a switching substation is required for the development, once the required load exceeds the need of one ring feed or if more than 5MVA is required, it would be best to install primary cables from the step-down substation to the future switching station site, and reticulate secondary cables from there. It will void the need of replace cables in the future.
- 4.7 To increase the needed capacity above what is currently available, the developer will need to apply to Eskom to upgrade the existing step-down substation to allow for more capacity.

## 5. STREET LIGHTING

All streetlighting will be in accordance with municipal guidelines and SANS-standards.

## 6. CABLE DUCTS

- 6.1 All road-crossings of cable will be in cable ducts.
- 6.2 The Electrical Contractor will install all ducts in road-crossings.
- 6.3 All manholes and sleeves required for a complete fibre/communications network, will be installed along the roads by the electrical contractor.

Yours faithfully

  
**PEDER CHRISTENSEN**

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