

7 DESCRIPTION OF THE BASELINE ENVIRONMENT

7.1 Introduction

According to section 28(e) of the NEMA Regulations, this section includes a description of the baseline environment that may be affected by the activity and the manner in which the biophysical, social, economic and cultural aspects of the environment may be affected by the proposed activity.

7.2 Study Area in Regional Context

7.2.1 Locality

Hendrina Power Station is located approximately 20km north of the town Hendrina in the Mpumalanga Province. The power station falls under the jurisdiction of the Nkangala District Municipality and in turn falls under the jurisdiction of the Steve Tshwete Local Municipality (**Figure 7.1**).

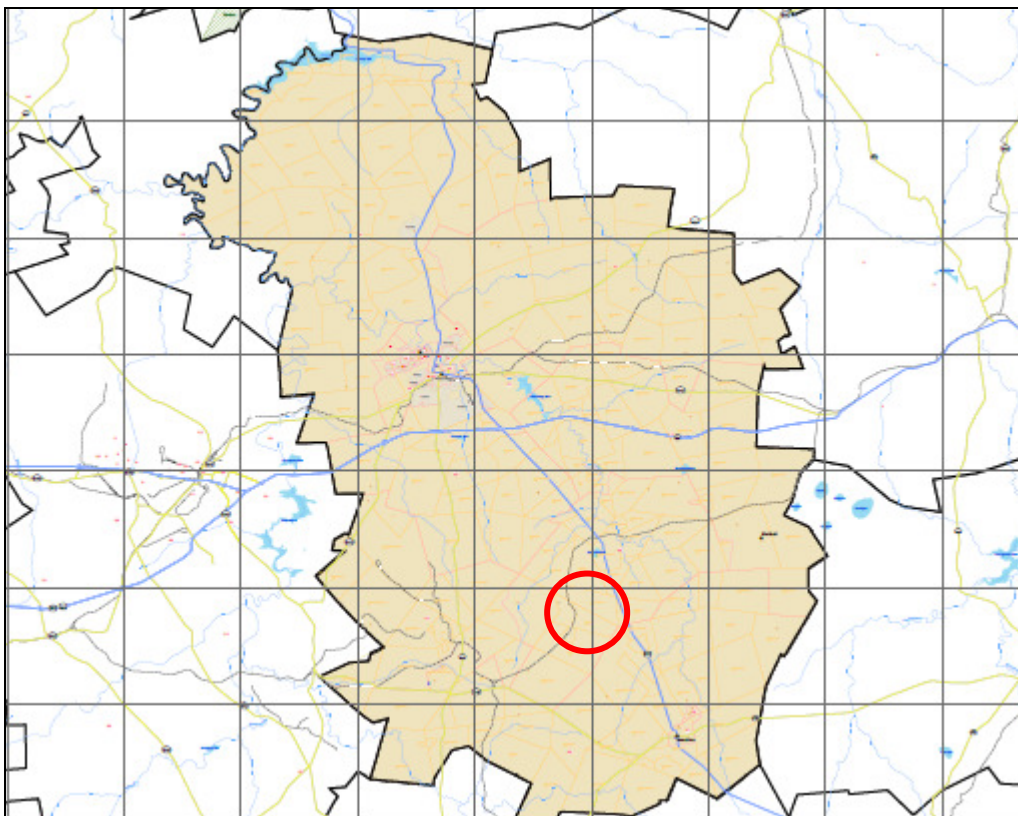


Figure 7.1: The location of the Hendrina Power Station within the Steve Tshwete Local Municipality

7.2.2 Study Area

In order to identify suitable alternative sites it was necessary to demarcate a suitable study area. The Hendrina Ash Dam EIA study area is therefore located within an eight (8)

kilometre radius around a centre point within the Hendrina Power Station (**Figure 7.2**). The study area is approximately 200 square kilometres in size and includes a total of 15 different farms divided into 77 farm portions. A list of the farm portions are included in **Table 7.1**. **Figure 7.3** shows the location of the 5 identified alternatives within the demarcated study area.

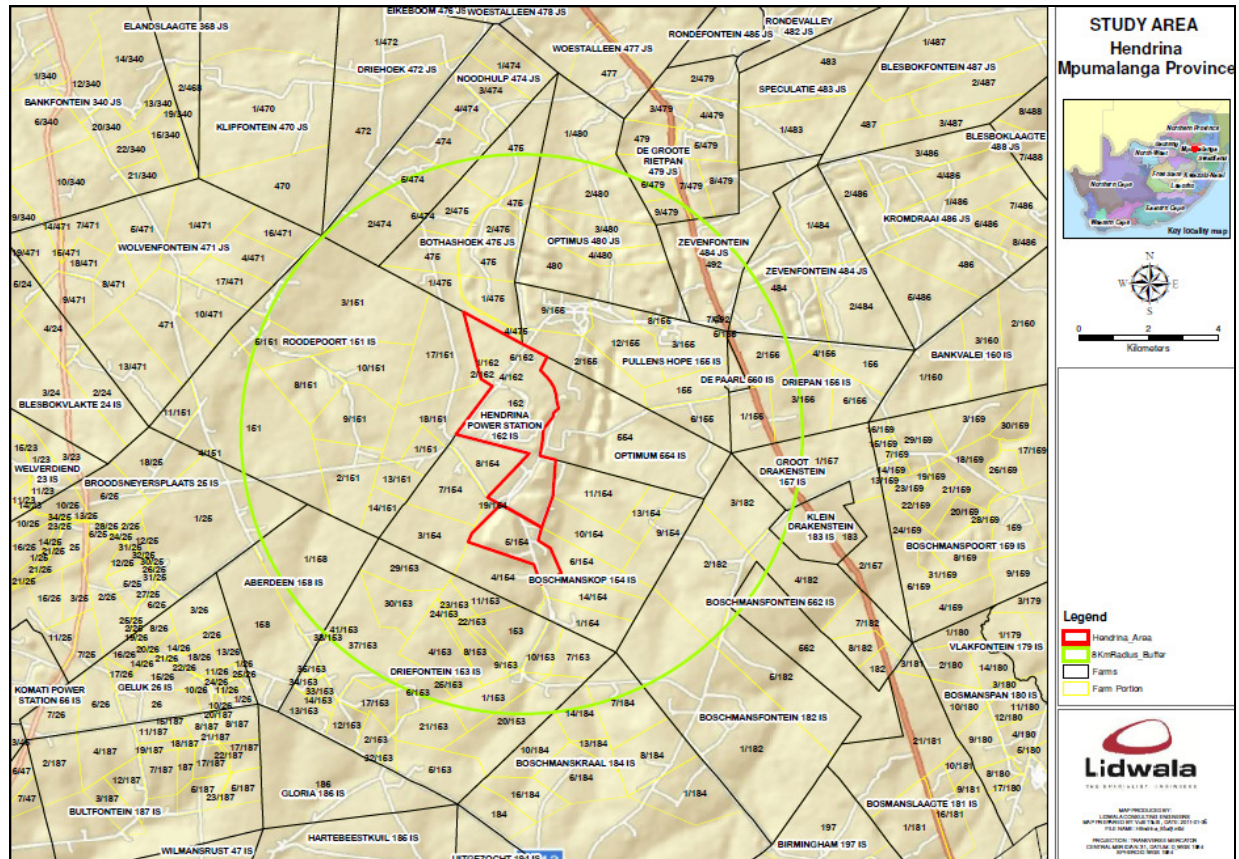


Figure 7.2: Hendrina Ash Dam Study Area

Table 7.1: Farm Portions situated within the Hendrina Ash Dam Study Area

SG_CODE	FARM_NO	PORTION	FARM NAME
T0IS00000000015100013	151	00013	ROODEPOORT 151 IS
T0IS00000000015100014	151	00014	ROODEPOORT 151 IS
T0IS00000000015100017	151	00017	ROODEPOORT 151 IS
T0IS00000000015100018	151	00018	ROODEPOORT 151 IS
T0IS00000000015300000	153	00000	DRIEFONTEIN 153 IS
T0IS00000000015300001	153	00001	DRIEFONTEIN 153 IS
T0IS00000000015300004	153	00004	DRIEFONTEIN 153 IS
T0IS00000000015300006	153	00006	DRIEFONTEIN 153 IS
T0IS00000000015300007	153	00007	DRIEFONTEIN 153 IS
T0IS00000000015300008	153	00008	DRIEFONTEIN 153 IS
T0IS00000000015300009	153	00009	DRIEFONTEIN 153 IS
T0IS00000000015300010	153	00010	DRIEFONTEIN 153 IS
T0IS00000000015300011	153	00011	DRIEFONTEIN 153 IS
T0IS00000000015300022	153	00022	DRIEFONTEIN 153 IS
T0IS00000000015300023	153	00023	DRIEFONTEIN 153 IS

T0IS00000000015300024	153	00024	DRIEFONTEIN 153 IS
T0IS00000000015300025	153	00025	DRIEFONTEIN 153 IS
T0IS00000000015300029	153	00029	DRIEFONTEIN 153 IS
T0IS00000000015300030	153	00030	DRIEFONTEIN 153 IS
T0IS00000000015300037	153	00037	DRIEFONTEIN 153 IS
T0IS00000000015300038	153	00038	DRIEFONTEIN 153 IS
T0IS00000000015300041	153	00041	DRIEFONTEIN 153 IS
T0IS00000000015400001	154	00001	BOSCHMANSKOP 154 IS
T0IS00000000015400003	154	00003	BOSCHMANSKOP 154 IS
T0IS00000000015400004	154	00004	BOSCHMANSKOP 154 IS
T0IS00000000015400005	154	00005	BOSCHMANSKOP 154 IS
T0IS00000000015400006	154	00006	BOSCHMANSKOP 154 IS
T0IS00000000015400007	154	00007	BOSCHMANSKOP 154 IS
T0IS00000000015400008	154	00008	BOSCHMANSKOP 154 IS
T0IS00000000015400009	154	00009	BOSCHMANSKOP 154 IS
T0IS00000000015400010	154	00010	BOSCHMANSKOP 154 IS
T0IS00000000015400011	154	00011	BOSCHMANSKOP 154 IS
T0IS00000000015400013	154	00013	BOSCHMANSKOP 154 IS
T0IS00000000015400014	154	00014	BOSCHMANSKOP 154 IS
T0IS00000000015400019	154	00019	BOSCHMANSKOP 154 IS
T0IS00000000015500000	155	00000	PULLENS HOPE 155 IS
T0IS00000000015500002	155	00002	PULLENS HOPE 155 IS
T0IS00000000015500003	155	00003	PULLENS HOPE 155 IS
T0IS00000000015500005	155	00005	PULLENS HOPE 155 IS
T0IS00000000015500006	155	00006	PULLENS HOPE 155 IS
T0IS00000000015500008	155	00008	PULLENS HOPE 155 IS
T0IS00000000015500009	155	00009	PULLENS HOPE 155 IS
T0IS00000000015500012	155	00012	PULLENS HOPE 155 IS
T0IS00000000015600001	156	00001	DRIEPAN 156 IS
T0IS00000000015600002	156	00002	DRIEPAN 156 IS
T0IS00000000015600003	156	00003	DRIEPAN 156 IS
T0IS00000000015700001	157	00001	GROOT DRAKENSTEIN 157 IS
T0IS00000000015800001	158	00001	ABERDEEN 158 IS
T0IS00000000015100000	151	00000	ROODEPOORT 151 IS
T0IS00000000015100001	151	00001	ROODEPOORT 151 IS
T0IS00000000015100002	151	00002	ROODEPOORT 151 IS
T0IS00000000015100003	151	00003	ROODEPOORT 151 IS
T0IS00000000015100005	151	00005	ROODEPOORT 151 IS
T0IS00000000015100008	151	00008	ROODEPOORT 151 IS
T0IS00000000015100009	151	00009	ROODEPOORT 151 IS
T0IS00000000015100010	151	00010	ROODEPOORT 151 IS
T0IS00000000016200000	162	00000	HENDRINA POWER STATION 162 IS
T0IS00000000016200001	162	00001	HENDRINA POWER STATION 162 IS
T0IS00000000016200002	162	00002	HENDRINA POWER STATION 162 IS
T0IS00000000016200003	162	00003	HENDRINA POWER STATION 162 IS
T0IS00000000016200004	162	00004	HENDRINA POWER STATION 162 IS
T0IS00000000016200006	162	00006	HENDRINA POWER STATION 162 IS
T0IS00000000055400000	554	00000	OPTIMUM 554 IS

T0IS0000000005600000	560	0000	DE PAARL 560 IS
T0JS0000000004800000	480	0000	OPTIMUS 480 JS
T0JS0000000004800002	480	0002	OPTIMUS 480 JS
T0JS0000000004800003	480	0003	OPTIMUS 480 JS
T0JS0000000004800004	480	0004	OPTIMUS 480 JS
T0JS0000000004840000	484	0000	ZEVENFONTEIN 484 JS
T0JS0000000004750000	475	0000	BOTHASHOEK 475 JS
T0JS0000000004750000	475	0000	BOTHASHOEK 475 JS
T0JS0000000004750000	475	0000	BOTHASHOEK 475 JS
T0JS0000000004750001	475	0001	BOTHASHOEK 475 JS
T0JS0000000004750001	475	0001	BOTHASHOEK 475 JS
T0JS0000000004750002	475	0002	BOTHASHOEK 475 JS
T0JS0000000004750002	475	0002	BOTHASHOEK 475 JS
T0JS0000000004750002	475	0002	BOTHASHOEK 475 JS
T0JS0000000004750004	475	0004	BOTHASHOEK 475 JS

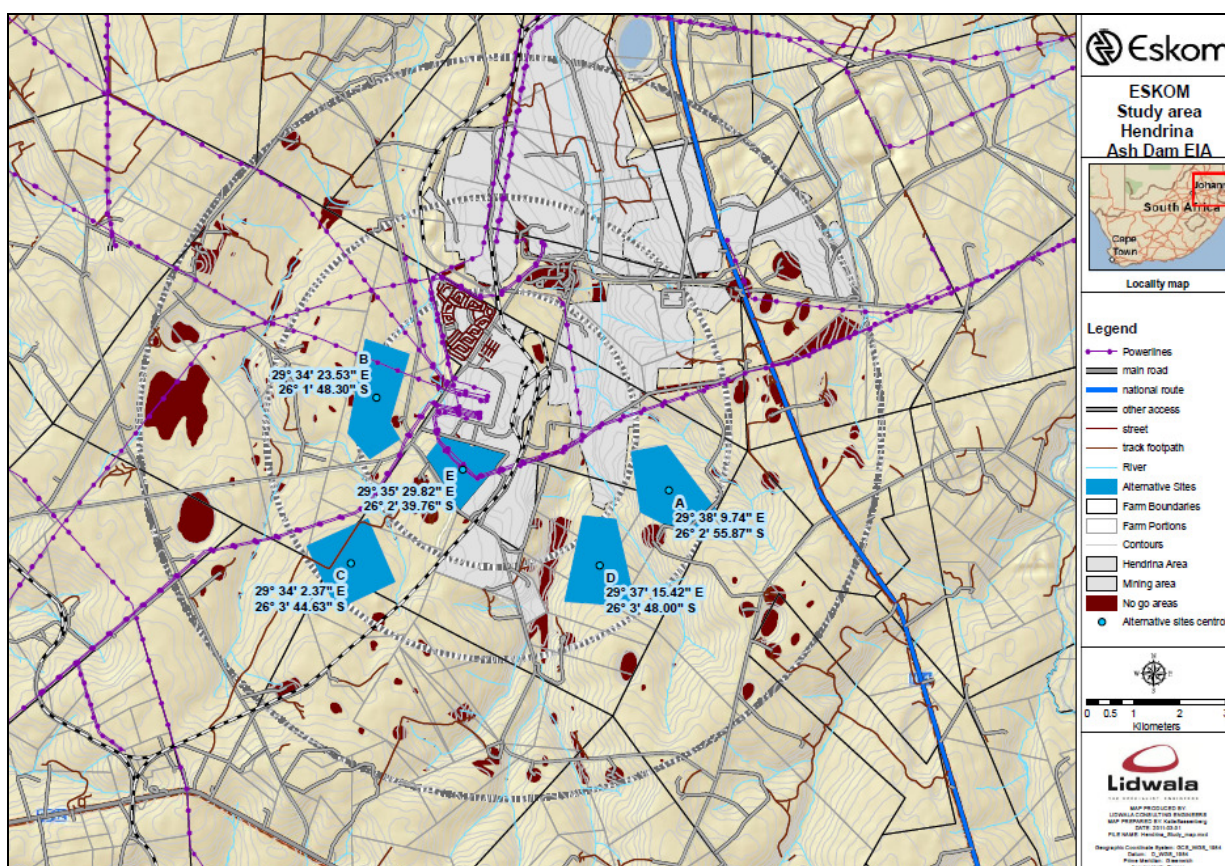


Figure 7.3: The location of the 5 identified alternatives within the demarcated study area

Table 7.2 outlines the farms associated with each alternative site

Table 7.2: Farm Portions situated within the Hendrina Ash Dam Study Area

SG_CODE	FARM_NO	PORTION	FARM NAME
Alternative A			
T0IS0000000005540000	554	0000	OPTIMUM 554 IS
T0IS0000000001540009	154	0009	BOSCHMANSKOP 154 IS
T0IS0000000001540011	154	0011	BOSCHMANSKOP 154 IS

T0IS00000000015400013	154	00013	BOSCHMANSKOP 154 IS
Alternative B			
T0IS00000000015100001	151	00001	ROODEPOORT 151 IS
T0IS00000000015100017	151	00017	ROODEPOORT 151 IS
T0IS00000000015100018	151	00018	ROODEPOORT 151 IS
Alternative C			
T0IS00000000015400003	154	00003	BOSCHMANSKOP 154 IS
T0IS00000000015400007	154	00007	BOSCHMANSKOP 154 IS
T0IS00000000015100014	151	00014	ROODEPOORT 151 IS
T0IS00000000015800001	158	00001	ABERDEEN 158 IS
T0IS00000000015300029	153	00029	DRIEFONTEIN 153 IS
Alternative D			
T0IS00000000015400006	154	00006	BOSCHMANSKOP 154 IS
T0IS00000000015400009	154	00009	BOSCHMANSKOP 154 IS
T0IS00000000015400010	154	00010	BOSCHMANSKOP 154 IS
T0IS00000000015400011	154	00011	BOSCHMANSKOP 154 IS
T0IS00000000015400013	154	00013	BOSCHMANSKOP 154 IS
Alternative E			
T0IS00000000015400008	154	00008	BOSCHMANSKOP 154 IS

7.3 Description of the Baseline Environment

7.3.1 Topography

The area within the study area is characterised by typical undulating terrain of the Mpumalanga Province. The natural topography of the area has been highly disturbed as a result of mining and agricultural activities.

Similar topography is found at all 5 of the Alternative sites ranging from flat to slightly undulating.

7.3.2 Climate

The climate in the study area can be described as typical highveld conditions with summers that are moderate and wet, while winters are cold and dry. The mean annual precipitation is approximately 735 mm/year, with rain experienced predominantly in the summer months (October to April).

Minimum temperatures have been recorded from -1.8°C to 13.7°C with maximum temperatures ranging between 18°C and 27°C.

The prevailing wind direction is recorded as being from the north-east and north.

The climate at all 5 alternative sites will be the same.